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Animal Mortality Resulting from Uniform Exposures to Photon Radiations: Calculated LD_{50}s and a Compilation of Experimental Data

T. D. Jones
M. D. Morris
S. M. Wells
R. W. Young

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Health and Safety Research Division

ANIMAL MORTALITY RESULTING FROM UNIFORM EXPOSURES TO PHOTON RADIATIONS: CALCULATED LD_{50}s AND A COMPILATION OF EXPERIMENTAL DATA

T. D. Jones
M. D. Morris*
S. M. Wells
and
R. W. Young†

*Engineering Physics and Mathematics Division

†Radiation Policy Office
Defense Nuclear Agency

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ABSTRACT

Studies conducted during the 1950s and 1960s of radiation-induced mortality to diverse animal species under various exposure protocols were compiled into a mortality data base. Some 24 variables were extracted and recomputed from each of the published studies, which were collected from a variety of available sources, primarily journal articles. Two features of this compilation effort are (1) an attempt to give an estimate of the uniform dose received by the bone marrow in each treatment so that interspecies differences due to body size were minimized and (2) a recomputation of the LD_{50} where sufficient experimental data are available. Exposure rates varied in magnitude from about 10^{-2} to 10^{3} R/min. This report describes the data base, the sources of data, and the data-handling techniques; presents a bibliography of studies compiled; and tabulates data from each study.

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DESCRIPTION OF DATA BASE AND ANALYSIS

INTRODUCTION

During the 1950s and 1960s, intensive scientific activity was concentrated in the field of mammalian radiobiology. Much of that research focused on measurements of the $LD_{50/30}$ (i.e., the dose lethal to 50% of a population within 30 days following treatment), the shape of the mortality dose-response function about the LD_{50}, and the rate of cellular repair and organic recovery following sublethal exposures. Studies of the acute LD_{50}, usually defined by mortality resulting from infection or hemorrhage following depressed levels of platelets and neutrophils in peripheral blood, have found that, in small species, individual deaths occur before 30 days, but in larger species mortality may continue to 45 or even 60 days. The probable explanation is that different blood elements have a shorter biological half-life and quicker generation time in the smaller species. Experimental studies have illustrated that death can be delayed or even prevented by medical support, e.g., transfusions of platelets to prevent hemorrhage and/or the use of antibiotics to supplement the immunoprotection provided by granulocytes. For a given level of mortality in simple mortality experiments (animals not given secondary treatments to enhance survival), it is typically observed that smaller species tolerate larger doses than do the larger species but then start to die earlier than large animals and complete mortality earlier. Faster cell kinetics appear to permit the smaller species to survive larger doses and to recover more efficiently following sublethal exposures; studies have shown that mice may recover if less than 2% of the hematopoietic stem cells survive (Bateman 1968; Bond and Robinson 1967; Fujioka et al. 1967). In contrast, large animals seem to require as much as 7 to 20% of the active marrow for survival (Bond and Robinson 1967; Jones 1981). It is not possible to establish any reasonable value for the LD_{50} for man based on the current human data (e.g., Baverstock and Ash 1983; Lushbaugh, Comas and Hofstra 1967; Mole 1984; NRC 1975); however, the data presented and standardized in this report serve as a large step towards an empirical knowledge of the way different species respond to ionizing radiations (Jones, Morris, and Young 1986).

Radiobiological laboratories throughout the United States and abroad have conducted diverse mortality studies—primarily on primates, burros, dogs, sheep, goats, and various rodent species. Radiation-induced mortality has been investigated for diverse species under varied exposure protocols of both high and low L.E.T. radiations. (L.E.T. is linear energy transfer and is based on ionic stopping-power considerations.) This determination of mortality was driven by a need for such knowledge in areas of military planning, cancer therapy, nuclear power generation, emergency preparedness, space flight, and further research. "Further research" is best exemplified by studies of radiation toxicity both in the short term after treatment (acute effects) and in the years after radiation exposure/treatment was ended (late or chronic effects). For most of these studies, preliminary information about response to treatment was needed so that experimental design could be optimized. For example, studies involving test animals could be conducted with fewer animals if the treatments were set as close to the maximum tolerated dose as possible.

A wealth of animal mortality data has been amassed from this two-decade study period. With the aid of computer programs designed to manage large data bases, it is now possible to extract selected variables from these widespread data sources. This study is such an example. Thus, a data base such as the one described in this report can be used in attempting to model the effects of species or dose rate on a particular biological end point such as hematologic death. Data presented here have been used to describe the empirical effects of species, body weight, and dose rate on the LD_{50} (Jones, Morris, and Young 1986).

DESCRIPTION OF THE DATA BASE

In order to make the studies included in this data base as directly comparable as possible, two unique and valuable calculations are included in our tabulation: first, we have attempted to give an

estimate of the uniform dose received by the bone marrow in each treatment so that the interspecies differences are minimized, and, second, we have recomputed the LD_{50} using a single estimation procedure for all studies for which sufficient experimental data are available. For small animals such as mice (body weight 25 g), the dose to the hematopoietic system is approximately equal to the treatment dose, but, for large animals (body weight 60 to 80 kg) such as sheep, goats, swine, or man, the marrow dose may be about half of the treatment dose. For larger animals such as burros (175 kg) or cattle (350 kg) the marrow dose is an even smaller fraction of the treatment dose. A lack of standardizing the marrow insult across different species and categorial assignments of dose rate were probably two of the main reasons that Baverstock, Papworth, and Townsend (1985) were unable to model the species-dependent change of the LD_{50} to their satisfaction.

The animal mortality studies as first published by the original investigators gave estimates of the LD_{50} that varied due to several reasons. For example, some investigators used marrow dose, and some used exposure measured in air at the site of the treated animals. Also, many different graphical and statistical methods were used to estimate the mortality curve and the median-lethal dose from the experimental data. Because our research is focused on determining the characteristics of the dose-mortality function across species, body weight, dose rate, and type of radiation, we have found it desirable and necessary to standardize concepts and models across the entire data base (Jones, Morris, and Young 1986).

Data presented herein (i.e., the mortality data base) are used to study the dose-mortality response under continuous exposure rates that vary in magnitude from about 10^{-2} to 10^{3} R/min. The dose-response curve for hematologic death is quite steep. Many different mathematical models have been used to analyze the response, and all models seem to work well in the zone of the LD_{50}. However, the fitted models deviate greatly below the LD_{05} or above the LD_{95}. Thus, it is desirable to estimate the steepness of the slope of the response in the zone where the choice of the model does not strongly affect the conclusion (i.e., the LD_{05} to LD_{95} range). Consequently, it has become common to characterize a mortality curve by the ratio LD_{90}/LD_{10} (Baverstock 1984). In other studies, assumptions are made relating the LD_{50} to the overall shape of the mortality curve leading to, for example, standardization of all treatment doses used in the experiment to the LD_{50} value estimated from that same experiment (Jones 1981), or specification of a dose-response model in which certain relationships among model parameters are assumed to be invarient across studies (Mole 1984).

In this work, we have somewhat arbitrarily selected the log-probit model (i.e., mortality modeled as the cumulative normal distribution function, after transforming dose to the logarithmic scale) in calculating LD_{50} values for each compiled study in which sufficient information was reported. (Following the frequently used parametrization, the "slope" reported in each experiment is the reciprocal of the standard deviation of the tolerance distribution.) Although there is some disagreement as to which parametric model is most appropriate, the effect of model selection on estimated LD_{50} is quite minimal where the dose-response relationship is as steep as in most studies reported here. Data from all treated groups were used in each estimate; control groups were excluded due to the log transformation used on dose. Maximum likelihood estimates were calculated by interatively reweighted least squares (Jennrich and Moore 1975) using procedure NLIN in the Statistical Analysis System (SAS) (SAS 1982). Standard errors were calculated using methods from standard asymptotic likelihood theory based on the expected information matrix (Kalbfleisch and Prentice 1980).

Most experiments included in this data base did not report a control group (dose of zero rad). Of those that did, a few experiments (#25, #52, #70, #164, #165, and #168 in the listing) reported some mortality in this group. Because use of the log-probit model tacitly assumes that background mortality is not present, we recomputed LD_{50}s for these six experiments using the log-probit model, but including the control group and using Abbott's correction (e.g., Finney 1964) to account for natural mortality. In each case, the estimated LD_{50} for excess mortality increased by 5% or less, except in experiment #25 where the estimate increased from 79.2 rad to 104.4 rad—but even this difference is within 2 standard errors, as reported in the table.

In creating the mortality data base, our goal has been to abstract and standardize as many different variables as commonly available from the many diverse studies. The level of mortality and the time-to-death considerations are given in this dataset. Other values are descriptive of various biological and physical conditions of the many studies. In 1968, Nobert Page attempted a fairly comprehensive analysis of mortality studies on primates and large animals. Page provided exposure to marrow correction factors for many conditions, and we have found Page's work to be very helpful to our efforts. Also, the work of Grahn (1956) and data in the National Bureau of Standards Handbook 85 (NBS 1964) were useful in estimating bone marrow doses in mice and rats. There are 24 variables in this particular data base, and the user may wish to use only a segment of this data base to study the effect of a particular biological or physical variable.

SOURCES OF DATA

This dataset is a nonselected compilation of all data that we have been able to collect over a period of about 7 years. The 7-year span included about 5 years during which data collection was passive and about 2 years during which data collection, dose calculations, etc., were done on an active basis (Jones 1981; Jones, Morris, and Young 1986). The sources of data were diverse, but there is a strong bias towards journal articles, with *Radiation Research* and the *International Journal of Radiation Biology* being major sources. Other less available and less peer-reviewed sources were not rejected. However, some of the studies are old, dating into the 1940s and early 1950s. Many of these early studies were published in laboratory reports that are almost unavailable now (perhaps two or three copies remain in some remote file). We have not attempted to abstract these "almost inaccessible" sources; however, some of these early studies have been reviewed and/or cited by later investigators.

Many experiments used are subject to missing or unknown values (printed as blank or "." in our data tables). Many studies cited in the literature have not been described adequately with respect to the variables that we used to characterize experimental design. For most of these studies, information is not available on each different treatment group, and an experiment is summarized by what is known at the reported LD_{50} level. Thus, for these experiments, our tabulation appears as if only one treatment group were used in the original study. But many of these studies were conducted similarly to the best designed studies in the published literature. We have included what we know about the poorly documented studies, and, of course, an LD_{50} could not be estimated from a single treatment group. For many complex modeling studies, these poorly documented studies will not be helpful, but their listing here serves two purposes. First, the incomplete listing permits us or others to plan expansions to the data base should the need justify the necessary resources. Also, the incomplete listings are useful for cross-checking (i.e., validating) data and enhance sensitivity studies regarding the potential influence of certain variables (e.g., species, strain, or photon wavelength).

DATA-HANDLING METHODS

Twenty-four variables were prepared from each of the papers used to form the data base, allowing the data to be managed and/or analyzed by software packages such as SAS. To standardize the animal mortality data base, both general and specific guidelines were issued to code and to access these data. These guidelines were followed strictly to ensure the integrity of the data base. Data entry was standardized to the maximum degree possible within the resources and constraints of this study. Serial refinements of previously coded studies as well as newly discovered and unique studies were included.

During this abstraction of experimental studies, some errors in published studies were found. Where possible, we have corrected these mistakes in our data base, but we did not keep a complete documentation of such changes. In some cases, we encountered minor errors that we could not resolve, so we present the results as published by the original investigator. For example, in a few instances investigators gave the total number of animals in a study as 2 or 3 less than the sum of the number treated in individual dosed groups.

General Guidelines

This data base was compiled from animal experiments in which photon radiations (having energies above 50 keV) delivered a dose to the hematopoietic marrow that did not vary by more than about 25%. Thus, data from the following types of experiments were not included: (1) mixed-field radiations (e.g., neutrons and photons) (2) partial body shielding, (3) split-dose treatment schedules, and (4) exposure geometries in which dose to different anatomical regions of the hematopoietic marrow varied by more than 25%. Otherwise, this data base was abstracted from all of the studies that we were able to obtain over the time span available for data collection and evaluation.

Animal treatment groups that experienced mortality within 96 hours were excluded unless the control groups experienced a similar pattern of mortality (e.g., Cronkite et al. 1955). Also, mortality from hematologic depression was taken to be complete in 30 days for small animals or in 60 days for large animals. Zero dose (or control) groups were coded in the same manner as treatment groups. Missing, unknown, or unavailable values were coded with a period (i.e., ".") in the first column of the field. A numerical value of zero was coded as "0" for integers and "0.0" for fixed-point numbers. Especially careful consideration was given to dose groups having mortality below 50% of the LD_{50} or to dose groups having survivors 50% above the LD_{50} (Jones 1981).

Specific Guidelines

For each experiment the following information was coded and/or calculated to the extent possible for each study:

Species

Strain—Abbreviation or shortening was used if a "cross" or hybrid name was too long.

Weight—In kilograms at the start of the experiment.

Investigator—May not be the same as the primary author of the published data (also see **Reviewer**).

Reviewer—Supplemental publication of data or factors used in data analysis (e.g., conversion factors to calculate marrow dose in rads from treatment dose expressed in a variety of different units).

Geometry—Stated to be unilateral, bilateral, multisource, quadrilateral, etc. Animal size, photon wavelength, and exposure geometry were restricted to combinations that resulted in a marrow dose gradient (to all compartments of the hematopoietic system) that was uniform to within 25%.

LD_{50}—Recalculated for this analysis based on marrow dose in rads and the log probability model.

S.E.—The standard error (in rads) of the LD_{50}.

Slope—The slope of the log-probability model in units of probits of mortality per log rad.

S.E.—The standard error of the slope.

Animals—The number of animals in this dose-response study; includes treated and control groups.

Exposure—Coded as "Continuous" if the treatments were given without interruptions of more than 30 minutes. "Interrupted" was used if treatments were interrupted by more than 30 minutes. For some exposures (such as bilateral with only one source) the experiment was obviously interrupted but the "downtime" time was not given. Based on personal observation of many such studies, most investigators made every effort to minimize downtime. However, the amount of downtime could enhance survival and appears to make a bilaterial study correspond to a lower dose rate. In situations where downtime was not given, we assumed zero, and, thus, more variance may be unexplained in the unifying statistical models than if we could model each such study in confidence of knowing the downtimes.

Source—Applied voltage of X-ray machine; energy of gamma photons, identification of isotopic source, etc. Many different X-ray machines and many different moderating materials were used. Such details were ignored in order to keep the experimental designs manageable in the data analysis. Machine setup seems to play a secondary role to other variables (Jones, Morris, and Young 1986).

Treatment—Treatment dose as published. MLA-R = midline in air (roentgens), MLA-RAD = midline in air (rads), MT-R = midline tissue (roentgens), MT-RAD = midline tissue (rads), "." = not available, etc.

Marrow Dose—In units of rads. Conversion factors were taken primarily from Page (1968), Grahn (1956), and NBS (1964). In other instances, treatment-to-marrow conversion factors could be estimated to within a few percent by identifying a similar experiment where the body weights, source radiations, and exposure geometry matched the study under evaluation. Usually such corrections were for the small species, so the accuracy should be adequate for dose-response modeling.

Animals—The number of animals treated in a group.

Deaths—The number of animal deaths occurring in the observation period.

Mean Survival—The mean survival time in days of only the animals that died, typically mortality in the period of 5 to 30 days in small animals or 5 to 60 days in large animals. Animals that survived past the end of the study did not count in the **Mean Survival**.

Mean Exposure Rate—In R/min. Mean exposure rate during the treatment period (i.e., exposure divided by time from the start of the first treatment to the end of the last treatment).

Max. Exposure Rate—In R/min. Maximum exposure rate during the treatment period.

Exposure Time—In minutes. Period over which the exposure was given (i.e., time from the start of the first treatment to the end of the last treatment). If the treatment was continuous, then the exposure time and the dose rate are inversely related.

Downtime—In minutes. Interval of **Exposure Time** during which no dose or treatment was given.

Dose/LD_{50}—Where numerator and denominator are in equal units. This normalization permits rapid comparisons across different experiments (Jones 1981). The LD_{50} was determined from the log-probit model.

CONCLUSION

The data base reported here is actually an intermediate product of our ongoing research on the mortality effects of radiation. Our current research includes the use of this data base in a comprehensive comparison of several parametric dose-response models. Our goals include finding which models are most reliable for the various species and determining characteristics of the dose-response curves that appear to be consistent within and among species. Another ongoing project based on these data is the modeling of several percentiles of the mortality curve (including the LD_{10}, LD_{50}, and LD_{90}) as functions of body weight, dose rate, and possibly other variables; early results have been reported (Jones, Morris, and Young 1986). This modeling work will be the basis of a careful extrapolation of these estimates to man, based upon necessarily unproven but reasonable assumptions about interspecies variation.

REFERENCES

Bateman, J.L. 1968. A Relation of Irradiation Dose-Rate Effects in Mammals and in Mammalian Cells. In D.G. Brown, R.G. Cragle, and T.R. Noonan, Eds., *The Proceedings of a Symposium on Dose Rate in Mammalian Radiation Biology Held at Oak Ridge Tennessee, April 29-May 1, 1968.* Report CONF 680410, pp. 23.1-23.16.

Baverstock, K.F. 1984. The Basis for LD_{50} in Man. *Int. J. Radiat. Biol.* 46(3), 209-217.

Baverstock, K.F., and P.J.N.D. Ash. 1983. A Review of Radiation Accidents Involving Whole Body Exposure and the Relevance to the $LD_{50/60}$ for Man. *Br. J. Radiol.* 837-849.

Baverstock, K.F., D.G. Papworth, and K.M.S. Townsend. 1985. Man's Sensitivity to Bone Marrow Failure Following Whole Body Exposure to Low LET Ionising Radiation: Inferences To Be Drawn from Animal Experiments. *Int. J. Radiat. Biol.* 47(4), 397-411.

Bond, V.P., and C.V. Robinson. 1967. A Mortality Determinant in Nonuniform Exposures of the Mammal. *Radiat. Res. Suppl.* 7, 265-275.

Cronkite, E.P, V.P. Bond, R.H. Lee, and W.H. Chapman. 1955. The Relative Biological Effectiveness of Atomic Bomb Gamma Radiation in Mice. Research Rep. Project NM006012.04.86, vol. 13, pp. 89-112, Naval Medical Research Institute, Naval Medical Center.

Finney, D.J. 1964. *Probit Analysis*, 2nd. Ed., Cambridge University Press, Ch. 6.

Fujioka, S., K. Hirashima, T. Kumatori, F. Takaku, and K. Nakao. 1967. Mechanism of Hematopoietic Recovery in the X-Irradiated Mouse with Spleen or One Leg Shielded. *Radiat. Res.* 31, 826-839.

Grahn, D., G.A. Sacher, and H. Walton, Jr. 1956. Comparative Effectiveness of Several X-Ray Qualities for Acute Lethality in Mice and Rabbits. *Radiat. Res.* 4, 228-244.

Jennrich, R.I., and R.H. Moore. 1975. Maximum Likelihood Estimation by Means of Nonlinear Least Squares. In *American Statistical Association, 1975 Proceedings of the Statistical Computing Section,* pp. 57-65.

Jones, T.D. 1981. Hematologic Syndrome in Man Modelled from Mammalian Lethality. *Health Phys.* 41, 83-103.

Jones, T.D., M.D. Morris, and R.W. Young. 1986. Dose-Rate Models for Human Survival After Exposure to Ionizing Radiation. In *Proceedings of the American Nuclear Society Topical Meeting on Radiological Accidents—Perspectives and Emergency Planning, September 15-17, Bethesda, Maryland.*

Kalbfleisch, J.D., and R.L. Prentice. 1980. *The Statistical Analysis of Failure Time Data*, John Wiley and Sons, New York, pp. 43-46.

Lushbaugh, C.C., F. Comas, and R. Hofstra. 1967. Clinical Studies of Radiation Effects in Man. *Radiat. Res. Suppl.* 7, 398-412.

Mole, R.H. 1984. The LD_{50} for Uniform Low LET Irradiation of Man. *Br. J. Radiol.* 57(677), 355-4n69.

NBS. 1964. National Bureau of Standards. *Physical Aspects of Irradiation: Recommendations of the International Commission on Radiological Units and Measurements, (ICRU), Report 106 1962*, NBS Handbook 85.

NRC. 1975. Nuclear Regulatory Commission. *Reactor Safety Study—An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants*, WASH-1400 (NUREG 75/014).

Page, N.P. 1968. The Effect of Dose-Protraction on Radiation Lethality of Large Animals. In D.G. Brown, R.G. Cagle, and T.R. Noonan, Eds., *The Proceedings of a Symposium on Dose Rate in Mammalian Radiation Biology Held at Oak Ridge, Tennessee, April 29-May 1, 1968*, Report CONF-680410.

SAS. 1982. Statistical Analysis System. *SAS User's Guide*. SAS Institute, Inc., Cary, N.C.

BIBLIOGRAPHY

Ainsworth, E.J., G.F. Leong, K. Kendall, and E.L. Alpen. 1964. The Lethal Effects of Pulsed Neutron or Gamma Irradiation in Mice. *Radiat. Res.* 21:75-85.

Ainsworth, E.J., G.F. Leong, K. Kendall, and E.L. Alpen. 1965. Comparative Lethality Responses of Neutron- and X-Irradiated Dogs: Influence of Dose Rate and Exposed Aspect. *Radiat. Res.* 26:32-34.

Allen, R.G., F.A. Brown, L.C. Logie, D.R. Rovner, S.G. Wilson, Jr., and R.W. Zellmer. 1960. Acute Effects of Gamma Radiation in Primates. *Radiat. Res.* 12:532-39.

Alpen, E.L., and D.M. Jones. 1959. Effects of Concomitant Superficial X-Radiation upon the Lethal Effectiveness of 250-kVp X-Rays. *Radiol.* 72:81-85.

Alpen, E.L., D.M. Jones, H.H. Hechter, and V.P. Bond. 1958. The Comparative Biological Response of Dogs to 250-kVp and 100-kVp X-Rays. *Radiol.* 70:541-50.

Baum, S.J. Personal communication.

Bond, V.P., R.E. Carter, J.S. Robertson, P.H. Seymour, and H.H. Hechter. 1956. The Effects of Total-Body Fast Neutron Irradiation in Dogs. *Radiat. Res.* 4:139-53.

Brown, D.G., and R.G. Cragle. 1968. Some Observations of Dose-Rate Effect of Radiation on Burros, Swine, and Cattle. In D.G. Brown, R.G. Cragle, and T.R. Noonan, Eds., *The Proceedings of a Symposium on Dose Rate in Mammalian Radiation Biology, Held at Oak Ridge, Tennessee, April 29-May 1, 1968.* Report CONF-680410. pp. 5.1-5.16.

Brown, D.G., R.E. Thomas, L.P. Jones, F.H. Cross, and D.P. Sasmore. 1961. Lethal Dose Studies with Cattle Exposed to Whole-Body Co^{60} Gamma Radiation. *Radiat. Res.* 15:675-83.

Brown, J.A.H., M.J. Corp, and D.R. Westgarth. 1960. Effect of Dose-Rate and Fractionation of X-Ray Dose on Acute Lethality in Mice. *Int. J. Rad. Biol.* 2(4)371-81.

Carsten, A.L., and T.R. Noonan. 1964. Hematological Effects of Partial-Body and Whole-Body X-Irradiation in the Rat. *Radiat. Res.* 22:136-43.

Carter, R.E., V.P. Bond, and P.H. Seymour. 1956. The Relative Biological Effectiveness of Fast Neutrons in Mice. *Radiat. Res.* 4:413-23.

Clark, W.G., and R. Uncapher. 1947. Dosage-Mortality in Rats Given Total Body Roentgen Irradiation. *Proc. Soc. Exper. Biol. Med.* 71:214-16.

Corbascio, A.N., and H.I. Kohn. 1962. Acute X-Ray Lethality in the Chinese Hamster After Whole-Body and Partial-Body Irradiation. *Radiat. Res.* 17:521-30.

Corp, M.J., and F.E. Neal. 1959. The Modification of Acute Mortality in Mice by Variation of the Dose-Rate and the Overall Time of Irradiation. *Int. J. Rad. Biol.* 3:256-65.

Cronkite, E.P., V.P. Bond, R.H. Lee, and W.H. Chapman. 1955. The Relative Biological Effectiveness of Atomic Bomb Gamma Radiation in Mice. Research Report, Project NM 006 012.04.86. Naval Medical Research Institute, National Naval Medical Center, Bethesda, Maryland. Vol. 13, pp. 89-112.

Cronkite, E.P., C.R. Sipe, D.C. Eltzholtz, W.H. Chapman, and F.W. Chambers, Jr. 1950. Increased Tolerance of Mice to Lethal X-Radiation as a Result of Previous Sublethal Exposure. Abstract, *Proceedings of the Society for Experimental Biology and Medicine.* 73:184-186.

Dacquisto, M.P., and E.W. Blackburn. 1960. The Influence of Delivery Rate of Whole Body 250 kV Roentgen Irradiation (30 or 3 roentgens per minute) on Mice, Rats and Guinea Pigs. *Am. J. Roentgenol., Radium Therapy Nucl. Med.* 84(4) 699-704. Charles C. Thomas, Springfield, Illinois.

Dalrymple, G.V., I.R. Lindsay, and J.J. Ghidoni. 1965. The Effect of 2-MeV Whole-Body X-Irradiation on Primates. *Radiat. Res.* 25:377-400.

Delihas, N., and H.J. Curtis. 1958. The Relative Biological Effectiveness of Fission Neutrons for the Production of Acute Mortality in Mice. *Radiat. Res.* 8:166-80.

Edmondson, P.W., and A. L. Batchelor. 1971. Acute Lethal Responses of Goats and Sheep to Bilateral or Unilateral Whole-Body Irradiation by Gamma-Rays and Fission Neutrons. *Int. J. Radiat. Biol.* 20(3):269-90.

Eldred, E., and W.V. Trowbridge. 1954. Radiation Sickness in the Monkey. *Radiology* 62:65-73.

Ellinger, F., and J.C. Barnett. 1950. Further Studies on the Influence of Dose Fractionation on the Lethal X-Ray Effect Produced by Total Body Irradiation in Mice: A Preliminary Note. *Radiol.* 49:238-41.

Frölén, N., K.G. Lünig, and C. Rönnabäck. 1961. The Effect of X-Irradiation on Various Strains due to Their Genetic Background. 1. Lethality After Acute Irradiation. *Radiat. Res.* 14:381-93.

Gambino, J.J., and R.G. Lindberg. 1964. Response of the Pocket Mouse to Ionizing Radiation. *Radiat. Res.* 22:586-97.

Gengozian, N., and J.S. Batson. 1966. Effects of Whole-Body Irradiation on a Small South American Primate, *Saguinus fuscicollis. Int. J. Rad. Biol.* 11(6):539-51.

George, R.E., R.E. Stanley, D. Wise, and E.L. Barron. 1968. The Acute Mortality Response of Beagles to Mixed Gamma-Neutron Radiation and 250 kVp X Rays. AFRRI ZD68-3. Armed Forces Radiobiology Research Institute, Defense Atomic Support Agency, Bethesda, Maryland. 12 pp.

Gleiser, C.A. 1953. The Determination of the Lethal Dose 50/30 of Total Body X-Radiation for Dogs. *Am. J. Vet. Res.* 14(50):284-86.

Golley, F.B., J.B. Gentry, E.F. Menhinick, and J.L. Carmon. 1965. Response of Wild Rodents to Acute Gamma Radiation. *Radiat. Res.* 24:350-56.

Grahn D., and K.F. Hamilton. 1957. Genetic Variation in the Acute Lethal Response of Four Inbred Mouse Strains to Whole Body X-Irradiation. *Genetics* 42:189-98.

Grahn, D., G.A. Sacher, and H. Walton, Jr. 1956. Comparative Effectiveness of Several X-Ray Qualities for Acute Lethality in Mice and Rabbits. *Radiat. Res.* 4:228-42.

Hagen, C.W., Jr., and G.A. Sacher. 1956. Acute Lethal Action of Single X-Ray Exposures on Guinea Pigs. In R. E. Zirkle, Ed., *Biological Effects of External X and Gamma Radiation, Part 2.* USAEC, Technical Information Service Extension, Oak Ridge, Tennessee. pp. 428-35.

Hagen, C.W., Jr., and E.L. Simmons. 1956. Effects of Total-Body X Irradiation on Rats. I. Lethal Action of Single, Paired, and Periodic Exposures. In R. Zirkle, Ed., *Biological Effects of External X and Gamma Radiation. Part 2.* USAEC, Technical Information Service Extension, Oak Ridge, Tennessee. pp. 281-99.

Haigh, M.V., and E. Paterson. 1956. Effects of a Single Session of Whole Body Irradiation in the Rhesus Monkey. *Br. J. Radiol.* 29(339):148-57.

Hanks, G.F. N.P. Page, E.J. Ainsworth, G.F. Leong, C.K. Menkes, and E.L. Alpen. 1966. Acute Mortality and Recovery Studies in Sheep Irradiated with Cobalt-60 Gamma Rays or 1-MVp X-Rays. *Radiat. Res.* 27:397-405.

Henschke, U.K., and J.L. Morton. 1957. Mortality of Rhesus Monkeys After Single Total Body Irradiation. *Am. J. Roentgenol., Radium Therapy Nucl. Med.* 77(5):899-909. Charles C. Thomas, Springfield, Illinois.

Hursh, J.B., and G. W. Casarett. 1956. The Lethal Effect of Acute X Irradiation on Rats as a Function of Age. *Br. J. Radiol.* 29:169-71.

Jones, D.C., G.K. Osborn, and D.J. Dimeldorf. 1969. Age at X-Irradiation and Acute Radiation Mortality in the Adult Male Rat. *Radiat. Res.* 38:614-21.

Kallman, R.F. 1962. The Effect of Dose Rate on Mode of Acute Radiation Death of C57BL and BALB/c Mice. *Radiat. Res.* 16:796-810.

Kaplan, H.S., and M.B. Brown. 1952. Mortality of Mice After Total-Body Irradiation as Influenced by Alterations in Total Dose, Fractionation, and Periodicity of Treatment. *J. Nat. Cancer Inst.* 12:765-75.

Kohn, H.I., and R.F. Kallman. 1956. The Influence of Strain on Acute X-Ray Lethality in the Mouse. I. LD_{50} and Death Rate Studies. *Radiat. Res.* 5:309-17.

Kohn, H.I., and R.F. Kallman. 1957. Acute Lethality Studies with the Rat: The LD_{50}, Death Rate, and Recovery Rate. *Radiat. Res.* 7:85-97.

Kohn, H.I., and R.F. Kallman. 1957. Acute X-Ray Lethality Studies with the Hamster: The LD_{50}, Death Rate and Recovery Rate. *Radiat. Res.* 6:137-47.

Kohn, H.I., and R.F. Kalliman. 1957. The Influence of Strain on Acute X-Ray Lethality in the Mouse. II. Recovery Rate Studies. *Radiat. Res.* 6:329-38.

Krebs, J.S., and G.F. Leong. 1968. Dependence of Lethal Response to Radiation on Dose Rate. *Radiat. Res.* 35:532.

Leong, G.F., W.G. Wisecup, and J.W. Grisham. 1964. Effects of Divided Doses of X-Ray on Mortality and Hematology of Small and Large Domestic Animals. *Ann. N.Y. Acad. Sci.* 114/1:138-46.

Logie, L.C., M.D. Harris, R.E. Tatsch, and E.N. Van Hooser. 1960. An Analysis of the $LD_{50(30)}$ as Related to Radiation Intensity. *Radiat. Res.* 12:349-56.

Meville, G.S., Jr., F.P. Conte, M. Slater, and A.C. Upton. 1957. Acute Lethality of Mice as Influenced by the Periodicity of Paired Exposures to Fast Neutrons or X Rays. *Br. J. Radiol.* 30:196-99.

Michaelson, S.M., K.T. Woodward, L.T. Odland, and J.W. Howland. 1968. Radiation Time-Intensity and Pathophysiologic Correlations in Whole and Partial-Body X-Irradiated Beagles. In D.G. Brown, R.G. Cragle, and T.R. Noonan, Eds., *The Proceedings of a Symposium on Dose Rate in Mammalian Radiation Biology, Held at Oak Ridge, Tennessee, April 29-May 1, 1968.* Report CONF-680410.

Mole, R.H. 1956. Quantitative Observations on Recovery from Whole Body Irradiation in Mice. 1. Recovery After Single Large Doses of Radiation. *Br. J. Radiol.* 29:563-69.

Nachtwey, D.S., E.J. Ainsworth, and G.F. Leong. 1967. Recovery from Radiation Injury in Swine as Evaluated by the Split-Dose Technique. *Radiat. Res.* 31:353-67.

Neal, F.E. 1960. Variation of Acute Mortality with Dose-Rate in Mice Exposed to Single Large Doses of Whole-Body X-Radiation. *Int. J. Rad. Biol.* 2(3):295-300.

Newton, W.T., and M. Ter-Pogossian. 1960. Median Lethal Dose for Guinea Pigs of Cobalt-60 Gamma Irradiation. *Radiat. Res.* 13:298-304.

Norris, W.P., T.E. Fritz, C.E. Rehfeld, and C.M. Poole. 1968. The Response of the Beagle Dog to Cobalt-60 Gamma Radiation: Determination of $LD_{50(30)}$ and Description of Associated Changes. *Radiat. Res.* 34:681-708.

Page, N.P. 1968. The Effect of Dose-Protraction on Radiation Lethality of Large Animals. In D.G. Brown, R.G. Cragle, and T.R. Noonan, Eds., *The Proceedings of a Symposium on Dose Rate in Mammalian Radiation Biology, Held at Oak Ridge, Tennessee, April 29-May 1, 1968.* Report CONF-680410.

Page, N.P., E.J. Ainsworth, and G.F. Leong. 1968. The Relationship of Exposure Rate and Exposure Time to Radiation Injury in Sheep. *Radiat. Res.* 33:94-106.

Paterson, E., C.W. Gilbert, and M.V. Haigh. 1956. Effects of Paired Doses of Whole Body Irradiation in the Rhesus Monkey. *Br. J. Radiol.* 29(340):218-26.

Paterson, E., C.W. Gilbert, and J. Matthews. 1952. Time Intensity Factors and Whole Body Irradiation. *Brit. J. Radiol.* 25:427-33.

Phillips, R.D., D.J. Kimeldorf, and D.C.L. Jones. 1963. The Relative Potency of Fast Neutrons and 250-kVp X-Rays in the Guinea Pig. *Radiat. Res.* 19:142-55.

Pryor, W.H., Jr., W.G. Glenn, and K.A. Hardy. 1967. The Gamma Radiation $LD_{50(30)}$ for the Rabbit. *Radiat. Res.* 30:483-87.

Rust, J.H., G.D. Folmar, Jr., J.J. Lane, and B.F. Trum. 1955. The Lethal Dose of Total Body Cobalt-60 Gamma Radiation for the Rabbit. *Am. J. Roentgenol. Radium Therapy* 74(1):135-38.

Rust, J.H., B.F. Trum, J.L. Wilding, C.S. Simmons, and C.L. Comar. 1954. Lethal Dose Studies with Burro and Swine Exposed to Whole Body Cobalt-60 Irradiation. *Radiol.* 62:569-73.

Rust, J.H., J.L. Wilding, B.F. Trum, C.S. Simons, A.W. Kimball, Jr., and C.L. Comar. 1953. The Lethal Dose of Whole-Body Tantalum Gamma Irradiation for the Burro (*Equus asinus*). *Radiol.* 60:579-82.

Schlumberger, H.G., and J.J. Vazquez. 1954. Pathology of Total Body Irradiation in the Monkey. *Am. J. Path.* 30(6):1013-34.

Schultze, M.O., V. Perman, N.S. Mizuno, F.W. Bates, J.H. Sautter, H.S. Isbin, and M.K. Loken. 1959. Effects of Gamma Radiation on Calves. *Radiat. Res.* 11:399-408.

Shively, J.N., S.M. Michaelson, and J.W. Howland. 1958. The Response of Dogs to Bilateral Whole-Body Co^{60} Irradiation. *Radiat. Res.* 9:445-50.

Shively, J.N., S.M. Michaelson, and J.W. Howland. 1961. The Response of Dogs to Bilateral Whole-Body Co^{60} Irradiation. *Radiat. Res.* 15:319-28.

Stanley, R.E., et al. 1966. *The Acute Mortality Response of Monkeys (Nueacamulatta) to Mixed Gamma-Neutron Radiations and 250 kVp X-Rays.* Armed Forces Radiobiology Research Institute, Defense Atomic Support Agency, Bethesda, Maryland. AFRRI SP66-23.

Still, E.T., N.P. Page, J.F. Taylor, W.G. Wisecup, E.J. Ainsworth, and G.F. Leong. 1969. *Acute Mortality and Recovery Studies in Burros Irradiated with 1 MVp X-Rays. Radiat. Res.* 39:580-93.

Strike, T.A. 1969. *Acute Mortality of Mice and Rats Exposed to 14 MeV Neutrons.* Armed Forces Radiobiology Research Institute, Defense Atomic Support Agency, Bethesda, Maryland. AFRRI SR69-19. 11 pp.

Strike, T.A., and L.J. Seigneur. 1969. Acute Mortality of Chinchillas Exposed to Mixed Gamma-Neutron Radiations or 250-kVp X-rays. *Radiat. Res.* 38:414-24.

Strike, T.A., L.J. Seigneur, and R.E. Stanley. 1968. *Acute Mortality of Mice and Rats Exposed to Mixed Gamma-Neutron Radiations or to X Rays.* Armed Forces Radiobiology Research Institute, Defense Atomic Support Agency, Bethesda, Maryland. AFRRI SR68-6. 19 pp.

Swift, M.N., S.T. Taketa, and V.P. Bond. 1954. Regionally Fractionated X-Irradiation Equivalent in Dose to Total-Body Exposure. *Radiat. Res.* 1:241-52.

Taylor, J.F., E.J. Ainsworth, N.P. Page, and G.F. Leong. 1969. *Influence of Exposure Aspect on Radiation Lethality in Sheep.* Naval Radiological Defense Laboratory, San Francisco, Calif. NRLD-TR-69-15, March 24, 1969.

Taylor, J.F., N.P. Page, E.J. Ainsworth, and G.F. Leong. 1968. The Effect of Exposure Aspect on Radiation Lethality on Sheep. Abstract (Ed-1) at Sixteenth Annual Meeting of Radiation Research Society, Houston, Texas, April 21-25, 1968.

Taylor, J.F., E.T. Still, N.P. Page, G.F. Leong, and E.J. Ainsworth. 1971. Acute Lethality and Recovery of Goats After 1 MVp X-Irradiation. *Radiat. Res.* 45:110-26.

Thomson, J.F., and W.W. Tourtefflotte. 1953. The Effect of Dose Rate on the LD_{50} of Mice Exposed to Gamma Radiation from Cobalt 60 Sources. *Am. J. Roentgenol., Radium Therapy Nucl. Med.* 69:826-29. Charles C. Thomas, Springfield, Illinois.

Trum, B.F., J.J. Lane, U.S.G. Kuhn, and J.H. Rust. 1959. The Mortality Response of the Burro (*Equus asinus*) to a Single Total-Body Exposure of Gamma Radiations from Zr^{95}/Nb^{95}. *Radiat. Res.* 11:314-25.

Tullis, J.L., F.W. Chambers, Jr., J.E. Morgan, and J.H. Zeller. 1952. Mortality in Swine and Dose Distribution Studies in Phantoms Exposed to Super-Voltage Roentgen Radiation. In *Am. J. Roentgenol. Radium Therapy* 67:620-27. Charles C. Thomas, Springfield, Illinois.

Tullis, J.L., C.F. Tessmer, E.P. Cronkite, and F.W. Chambers. 1949. The Lethal Dose of Total-Body X-Ray Irradiation in Swine. *Radiol.* 52:396-400.

Upton, A.C., F.P. Conte, G.S. Hurst, and W.A. Mills. 1956. The Relative Biological Effectiveness of Fast Neutrons, X-Rays, and γ-Rays for Acute Lethality in Mice. *Radiat. Res.* 4:117-31.

Vogel, H.H., Jr., J.W. Clark, and D.L. Jordan. 1957. Comparative Mortality Following Single Whole-Body Exposures of Mice to Fission Neutrons and Co^{60} Gamma Rays. *Radiol.* 68:386-98.

Vogel, H.H., Jr., J.W. Clark, and D.L. Jordan. 1957. Comparative Mortality After 24-Hour, Whole-Body Exposures of Mice to Fission Neutrons and Co^{60} Gamma Rays. *Radiat. Res.* 6:640-68.

Walburg, H.E., Jr., E.I. Mynatt, and D.M. Robie. 1966. The Effect of Strain and Diet on the Thirty-Day Mortality of X-Irradiated Germfree Mice. *Radiat. Res.* 27(4):616-29.

PRESENTATION OF DATA BY SPECIES

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
1	Burro		189.00	Still-69		Bilateral	176(12.8)	2.5(0.48)	100	Continuous	1 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	150MLA-R	77	39	1	18.30	7.50	7.50	20.00	0.00	0.439
2	250MLA-R	128	26	6	18.30	7.50	7.50	33.30	0.00	0.729
3	300MLA-R	153	7	2	18.30	7.50	7.50	40.00	0.00	0.872
4	350MLA-R	179	11	5	18.30	7.50	7.50	46.70	0.00	1.020
5	400MLA-R	204	6	4	18.30	7.50	7.50	53.00	0.00	1.162
6	450MLA-R	230	7	5	18.30	7.50	7.50	60.00	0.00	1.310
7	500MLA-R	255	4	4	18.30	7.50	7.50	66.70	0.00	1.453

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
2	Burro		139.50	Rust-54		Whole-body	280(11.1)	5.1(1.49)	50	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	605MLA-R	216	10	1	14.70	0.85	0.85	711.60	0.00	0.772
2	690MLA-R	246	10	3	14.70	0.85	0.85	805.80	0.00	0.880
3	750MLA-R	268	10	5	14.70	0.85	0.85	876.60	0.00	0.958
4	790MLA-R	282	10	3	14.70	0.85	0.85	927.00	0.00	1.008
5	945MLA-R	338	10	9	14.70	0.83	0.83	1140.00	0.00	1.209

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
3	Burro		146.00	Rust-53		Multisource	287(0.6)	156.6(86.39)	80	Continuous	Ta-182

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	300MLA-R	134	10	0	.	0.37	0.37	810.00	0.00	0.468
2	400MLA-R	178	10	0	.	0.38	0.38	1060.00	0.00	0.621
3	530MLA-R	236	10	0	.	0.37	0.37	1440.00	0.00	0.824
4	570MLA-R	254	10	0	.	0.31	0.31	1870.00	0.00	0.886
5	640MLA-R	285	10	2	28.80	0.30	0.30	2120.00	0.00	0.995
6	645MLA-R	287	10	6	26.30	0.37	0.37	1730.00	0.00	1.002
7	700MLA-R	312	10	10	28.40	0.30	0.30	2350.00	0.00	1.089
8	820MLA-R	365	10	10	22.30	0.38	0.38	2180.00	0.00	1.274

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
4	Burro		143.00	Trum-59	Page-68	Multisource	317(7.2)	12.1(4.13)	62	Continuous	Zr-95/Nb-95

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	500MLA-R	299	10	3	33.00	0.30	0.30	1700.00	0.00	0.942
2	550MLA-R	329	10	5	28.60	0.22	0.22	2560.00	0.00	1.037
3	580MLA-R	347	6	6	30.30	0.32	0.32	1800.00	0.00	1.094
4	650MLA-R	389	6	6	28.00	0.22	0.22	3020.00	0.00	1.226
5	722MLA-R	432	10	10	21.20	0.31	0.31	2300.00	0.00	1.361
6	807MLA-R	483	10	10	21.90	0.32	0.32	2550.00	0.00	1.522
7	900MLA-R	538	10	10	19.20	0.30	0.30	3000.00	0.00	1.695

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
5	Burro		.	Still-68	Page-68	Bilateral	.	.	.	Continuous	1000 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	376MLA-R	175	.	.	.	7.00	7.00	53.70	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
6	Cattle	Hereford	375.00	Brown,D-61	Page-68	Multisource	158(3.5)	10.8(2.35)	60	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	450MLA-R	133	10	1	30.00	0.92	0.92	491.00	0.00	0.842
2	500MLA-R	147	10	1	21.00	0.92	0.92	545.00	0.00	0.931
3	550MLA-R	162	10	6	21.50	0.92	0.92	600.00	0.00	1.026
4	600MLA-R	177	10	9	22.20	0.92	0.92	655.00	0.00	1.121
5	650MLA-R	192	10	10	19.40	0.92	0.92	709.00	0.00	1.216
6	700MLA-R	206	10	10	17.90	0.92	0.92	764.00	0.00	1.305

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
7	Cattle	Holstein	80.00	Shultze-59	Page-68	Multisource	.	.	17	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	150MLA-R	94	2	0	.	6.60	6.60	23.00	0.00	.
2	250MLA-R	156	10	10	19.40	6.60	6.60	38.00	0.00	.
3	300MLA-R	188	2	2	16.50	6.60	6.60	45.00	0.00	.
4	320MLA-R	200	1	1	14.00	6.60	6.60	48.00	0.00	.
5	350MLA-R	219	1	1	14.00	6.60	6.60	53.00	0.00	.
6	360MLA-R	225	1	1	17.00	6.60	6.60	55.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
8	Chinchilla	Laniger	0.43	Strike-69		Unilateral	490(23.7)	2.3(0.30)	430	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		0	32	0	.	20.00	20.00	0.00	0.00	0.000
2		0	16	0	.	20.00	20.00	0.00	0.00	0.000
3		357	16	3	15.00	20.00	20.00	18.00	0.00	0.729
4		447	32	16	18.00	20.00	20.00	22.00	0.00	0.912
5		536	32	17	12.00	20.00	20.00	27.00	0.00	1.094
6		536	15	10	12.00	20.00	20.00	27.00	0.00	1.094
7		625	32	24	13.00	20.00	20.00	31.00	0.00	1.276
8		670	32	21	12.00	20.00	20.00	34.00	0.00	1.367
9		714	32	25	13.00	20.00	20.00	36.00	0.00	1.457
10		714	16	14	12.00	20.00	20.00	36.00	0.00	1.457
11		759	32	24	12.00	20.00	20.00	38.00	0.00	1.549
12		804	32	29	12.00	20.00	20.00	40.00	0.00	1.641
13		848	32	31	11.00	20.00	20.00	42.00	0.00	1.731
14		893	32	27	11.00	20.00	20.00	45.00	0.00	1.823
15		893	15	15	9.60	20.00	20.00	45.00	0.00	1.823
16		1072	16	16	7.30	20.00	20.00	54.00	0.00	2.188
17		1786	16	16	6.30	20.00	20.00	90.00	0.00	3.645

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
9	Dog	Beagle	10.00	George-68	SR68-3	Bilateral	206(3.6)	9.5(1.93)	112	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		0	30	0	.	16.80	16.80	0.00	0.00	0.000
2		175	10	0	.	16.80	16.80	10.40	0.00	0.848
3		189	10	2	15.50	16.80	16.80	11.30	0.00	0.915
4		203	24	12	18.00	16.80	16.80	12.10	0.00	0.983
5		215	10	7	15.00	16.80	16.80	12.80	0.00	1.041
6		228	10	7	14.50	16.80	16.80	13.60	0.00	1.104
7		237	4	4	15.30	16.80	16.80	14.00	0.00	1.148
8		241	10	9	14.30	16.80	16.80	14.00	0.00	1.167
9		271	4	4	13.50	16.80	16.80	16.00	0.00	1.312

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
10	Dog	Mongrel	11.00	Alpen-58		Bilateral	217(3.7)	9.1(2.35)	85	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	200MLA-R	154	4	0	.	6.30	6.30	32.00	0.00	0.710
2	250MLA-R	193	5	0	.	6.30	6.30	40.00	0.00	0.890
3	260MLA-R	201	12	4	13.00	6.30	6.30	41.00	0.00	0.927
4	275MLA-R	212	20	8	.	6.30	6.30	44.00	0.00	0.978
5	280MLA-R	216	7	4	15.70	6.30	6.30	44.00	0.00	0.996
6	285MLA-R	220	8	4	.	6.30	6.30	45.00	0.00	1.014
7	300MLA-R	232	16	12	18.60	6.30	6.30	48.00	0.00	1.070
8	320MLA-R	247	4	3	17.80	6.30	6.30	51.00	0.00	1.139
9	350MLA-R	270	5	5	.	6.30	6.30	56.00	0.00	1.245
10	400MLA-R	309	4	4	.	6.30	6.30	63.00	0.00	1.425

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
11	Dog	Beagle	10.00	Michaelson-68		Bilateral	228(10.2)	4.4(1.30)	55	Continuous	1 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	150MLA-R	112	5	0	.	58.00	58.00	3.00	0.00	0.492
2	225MLA-R	169	5	1	.	58.00	58.00	4.00	0.00	0.743
3	260MLA-R	195	13	2	18.30	58.00	58.00	4.00	0.00	0.857
4	280MLA-R	210	7	3	18.30	58.00	58.00	5.00	0.00	0.923
5	300MLA-R	225	6	2	18.30	58.00	58.00	5.00	0.00	0.989
6	325MLA-R	243	6	5	14.50	58.00	58.00	6.00	0.00	1.068
7	340MLA-R	255	7	5	14.50	58.00	58.00	6.00	0.00	1.121
8	400MLA-R	300	6	5	16.00	58.00	58.00	7.00	0.00	1.318

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
12	Dog	Mongrel	11.40	Bond-56		Bilateral	238(7.9)	5.2(1.65)	65	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	108MT-REP	102	2	0	14.60	15.00	15.00	7.20	0.00	0.429
2	180MT-REP	171	4	1	14.60	15.00	15.00	12.00	0.00	0.719
3	230MT-REP	218	10	2	14.60	15.00	15.00	15.30	0.00	0.917
4	252MT-REP	239	27	12	14.60	15.00	15.00	16.80	0.00	1.005
5	270MT-REP	256	9	7	14.60	15.00	15.00	18.00	0.00	1.077
6	293MT-REP	278	5	4	14.60	15.00	15.00	19.50	0.00	1.169
7	315MT-REP	299	4	4	14.60	15.00	15.00	21.00	0.00	1.258
8	360MT-REP	341	4	4	14.60	15.00	15.00	24.00	0.00	1.434

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
13	Dog	Fox-H	17.00	Gleiser-53	Page-68	Bilateral	247(8.9)	4.0(0.70)	121	Continuous	2 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	200MLA-R	157	10	2	.	15.00	15.00	13.00	0.00	0.635
2	250MLA-R	200	11	3	.	15.00	15.00	17.00	0.00	0.809
3	300MLA-R	236	25	6	.	15.00	15.00	20.00	0.00	0.955
4	300MLA-R	236	10	3	.	15.00	15.00	20.00	0.00	0.955
5	350MLA-R	276	8	4	.	15.00	15.00	23.00	0.00	1.117
6	400MLA-R	315	19	17	.	15.00	15.00	27.00	0.00	1.274
7	400MLA-R	315	10	10	16.20	15.00	15.00	27.00	0.00	1.274
8	450MLA-R	354	4	4	.	15.00	15.00	30.00	0.00	1.432
9	500MLA-R	394	10	10	9.80	15.00	15.00	33.00	0.00	1.594
10	600MLA-R	472	10	10	12.20	15.00	15.00	40.00	0.00	1.910
11	800MLA-R	630	4	4	11.70	15.00	15.00	53.30	0.00	2.549

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
14	Dog	Beagle	10.60	Norris-68	Page-68	Bilateral	256(6.5)	10.3(3.23)	32	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	275MT-R	219	8	1	29.00	15.00	15.00	18.30	0.00	0.854
2	300MT-R	239	8	2	23.50	15.00	15.00	20.00	0.00	0.932
3	325MT-R	259	7	1	22.40	15.00	15.00	21.70	0.00	1.010
4	350MT-R	279	9	9	17.30	15.00	15.00	23.30	0.00	1.089

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
15	Dog	Beagle	10.60	Norris-68	Page-68	Bilateral	262(2.3)	35.0(14.72)	29	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	325MT-R	259	4	3	22.40	10.00	10.00	32.50	0.00	0.988
2	325MT-R	259	8	1	22.40	10.80	10.80	30.10	0.00	0.988
3	340MT-R	271	8	7	19.60	14.40	14.40	23.60	0.00	1.034
4	365MT-R	291	9	9	17.20	14.40	14.40	25.30	0.00	1.110

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
16	Dog	Mongrel	11.00	Alpen-58		Bilateral	279(7.8)	5.8(1.71)	73	Continuous	100 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	450MLA-R	190	1	0	.	6.20	6.20	73.00	0.00	0.681
2	550MLA-R	232	11	1	.	6.20	6.20	89.00	0.00	0.832
3	600MLA-R	253	17	6	25.00	6.20	6.20	97.00	0.00	0.907
4	650MLA-R	274	17	7	15.00	6.20	6.20	105.00	0.00	0.982
5	675MLA-R	285	6	5	.	6.20	6.20	109.00	0.00	1.022
6	700MLA-R	295	12	6	12.00	6.20	6.20	113.00	0.00	1.057
7	750MLA-R	316	9	7	16.50	6.20	6.20	121.00	0.00	1.133

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
17	Dog	Mongrel	9.60	Ainsworth-65	Page-68	Bilateral	279(8.5)	3.8(0.80)	134	Continuous	1 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	225MT-R	197	10	0	.	9.50	9.50	24.00	0.00	0.706
2	250MT-R	219	16	3	19.30	9.50	9.50	26.00	0.00	0.785
3	270MT-R	237	8	3	16.30	9.50	9.50	28.00	0.00	0.849
4	280MT-R	246	12	4	18.30	9.50	9.50	29.00	0.00	0.881
5	300MT-R	263	22	9	.	9.50	9.50	32.00	0.00	0.942
6	306MT-R	269	7	5	15.20	9.50	9.50	32.00	0.00	0.964
7	325MT-R	285	8	5	14.60	9.50	9.50	34.00	0.00	1.021
8	350MT-R	307	17	7	18.60	9.50	9.50	37.00	0.00	1.100
9	360MT-R	316	28	19	17.60	9.50	9.50	38.00	0.00	1.132
10	400MT-R	351	6	6	15.70	9.50	9.50	42.00	0.00	1.258

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
18	Dog	Mongrel	12.60	Shively-58	Woodward-67	Bilateral	316(10.2)	8.1(2.20)	40	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	292MT-R	280	10	2	24.50	6.00	6.00	48.60	0.00	0.887
2	336MT-R	322	10	5	18.20	6.00	6.00	56.00	0.00	1.020
3	385MT-R	369	10	9	17.80	6.00	6.00	64.10	0.00	1.169
4	436MT-R	418	10	10	14.90	6.00	6.00	72.60	0.00	1.324

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
19	Dog	Mongrel	12.00	Shively-61	Page-68	Bilateral	334(18.1)	3.5(1.51)	46	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	292MT-R	280	10	2	19.00	6.00	6.00	48.70	0.00	0.839
2	320MT-R	307	12	6	20.50	6.00	6.00	53.30	0.00	0.920
3	370MT-R	355	12	6	15.80	6.00	6.00	61.70	0.00	1.064
4	420MT-R	394	12	9	18.00	6.00	6.00	70.00	0.00	1.181

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
20	Dog	Mongrel	10.00	Alpen-59		Bilateral	.	.	40	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	275MLA-R	206	.	.	12.60	11.80	11.80	23.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
21	Dog		.	Michaelson-68	Page-68	Bilateral	.	.	.	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	308MLA-R	250	.	.	.	57.50	65.00	5.40	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
22	Dog		.	Hansen-61	Page-68	Bilateral	.	.	.	Continuous	1000 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		239	.	.	.	55.00	55.00	.	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
23	Dog		.	Bond-56	Page-68	Bilateral	.	.	.	Continuous	1000 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		239	.	.	.	15.00	15.00	.	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
24	Dog		.	Bond-56	Page-68	Bilateral	.	.	.	Continuous	2000 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		266	.	.	.	15.00	15.00	.	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
25	G. pig		0.25	Hagen-56		Whole-body	79(17.6)	0.6(0.10)	342	Continuous	200 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	61	11	.	15.00	15.00	0.00	0.00	0.000
2	50MLA-R	43	24	12	17.90	15.00	15.00	3.30	0.00	0.543
3	100MLA-R	85	34	18	17.90	15.00	15.00	6.60	0.00	1.074
4	200MLA-R	170	43	23	13.90	15.00	15.00	13.00	0.00	2.147
5	300MLA-R	255	35	25	11.00	15.00	15.00	20.00	0.00	3.221
6	400MLA-R	340	32	23	12.60	15.00	15.00	27.00	0.00	4.295
7	500MLA-R	425	62	54	9.80	15.00	15.00	33.00	0.00	5.369
8	600MLA-R	510	31	29	9.00	15.00	15.00	40.00	0.00	6.442
9	700MLA-R	595	18	18	7.80	15.00	15.00	47.00	0.00	7.516
10	800MLA-R	680	2	2	8.50	15.00	15.00	53.00	0.00	8.590

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
26	G. pig	Hartley	0.39	Dacquisto-60		Whole-body	231(17.4)	2.4(0.42)	92	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	90MLA-R	73	10	0	.	3.00	3.00	30.00	0.00	0.317
2	140MLA-R	113	12	0	.	3.00	3.00	47.00	0.00	0.490
3	190MLA-R	153	12	2	15.00	3.00	3.00	63.00	0.00	0.663
4	230MLA-R	186	12	6	14.00	3.00	3.00	77.00	0.00	0.806
5	350MLA-R	282	12	6	12.00	3.00	3.00	117.00	0.00	1.223
6	440MLA-R	355	12	10	11.00	3.00	3.00	147.00	0.00	1.539
7	600MLA-R	484	12	12	12.00	3.00	3.00	200.00	0.00	2.099
8	770MLA-R	621	10	10	11.00	3.00	3.00	257.00	0.00	2.693

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
27	G. pig	Hartley	0.39	Dacquisto-60		Whole-body	234(17.6)	2.5(0.43)	91	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	90MLA-R	73	10	0	.	30.00	30.00	3.00	0.00	0.312
2	140MLA-R	113	12	1	19.00	30.00	30.00	5.00	0.00	0.483
3	190MLA-R	153	12	2	20.00	30.00	30.00	6.00	0.00	0.655
4	230MLA-R	186	12	3	14.00	30.00	30.00	8.00	0.00	0.796
5	350MLA-R	282	12	6	10.00	30.00	30.00	12.00	0.00	1.206
6	440MLA-R	355	12	11	12.00	30.00	30.00	15.00	0.00	1.519
7	600MLA-R	484	11	11	11.00	30.00	30.00	20.00	0.00	2.071
8	770MLA-R	621	10	10	12.00	30.00	30.00	26.00	0.00	2.657

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
28	G. pig	Hartley	.	Phillips-63		Whole-body	267(19.2)	1.5(0.39)	177	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	150MT-RADS	150	7	3	20.30	26.50	26.50	6.00	0.00	0.561
2	200MT-RADS	200	8	3	12.30	26.50	26.50	8.00	0.00	0.748
3	225MT-RADS	225	30	8	13.10	26.50	26.50	8.00	0.00	0.842
4	250MT-RADS	250	7	5	11.40	26.50	26.50	9.00	0.00	0.935
5	275MT-RADS	275	18	10	11.60	26.50	26.50	10.00	0.00	1.029
6	300MT-RADS	300	26	13	14.40	26.50	26.50	11.00	0.00	1.122
7	350MT-RADS	350	25	14	13.60	26.50	26.50	13.00	0.00	1.309
8	375MT-RADS	375	30	22	11.30	26.50	26.50	14.00	0.00	1.403
9	400MT-RADS	400	26	21	12.10	26.50	26.50	15.00	0.00	1.497

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
29	G. pig		0.48	Newton-60		Rotated	336(17.4)	2.6(1.29)	90	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		290	30	10	11.60	18.50	18.50	16.00	0.00	0.862
2		328	30	15	10.40	18.50	18.50	18.00	0.00	0.975
3		375	30	18	11.60	18.50	18.50	20.00	0.00	1.114

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
30	Goat	Angora	34.20	Taylor-71	Page-68	Bilateral	200(12.7)	2.5(0.31)	204	Continuous	1 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	150MLA-R	92	132	2	17.50	7.50	7.50	20.00	0.00	0.459
2	200MLA-R	122	12	2	32.50	7.50	7.50	26.70	0.00	0.609
3	250MLA-R	153	12	4	28.30	7.50	7.50	33.30	0.00	0.764
4	300MLA-R	183	12	7	36.40	7.50	7.50	40.00	0.00	0.914
5	350MLA-R	214	12	7	32.90	7.50	7.50	46.70	0.00	1.068
6	400MLA-R	245	12	9	24.70	7.50	7.50	53.30	0.00	1.223
7	500MLA-R	306	12	8	17.60	7.50	7.50	66.70	0.00	1.528

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
31	Goat	Br.Saanen	78.00	Edmondson-71	Page-68	Bilateral	228(13.2)	4.4(1.36)	42	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	138MLA-R	84	6	0	.	37.50	37.50	3.70	0.00	0.368
2	238MLA-R	144	5	0	.	37.50	37.50	6.30	0.00	0.633
3	323MLA-R	196	9	1	21.00	37.50	37.50	8.60	0.00	0.861
4	367MLA-R	223	5	5	18.60	37.50	37.50	9.80	0.00	0.980
5	433MLA-R	262	9	6	19.50	37.50	37.50	11.50	0.00	1.151
6	506MLA-R	307	6	5	13.00	37.50	37.50	13.50	0.00	1.349
7	736MLA-R	447	2	2	9.00	37.50	37.50	19.60	0.00	1.964

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
32	Goat	Angora	.	Leong-64		Rotated	.	.	107	Continuous	1 MeV-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	412MLA-R	247	.	.	19.00	7.00	7.00	59.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
33	Goat		.	Edmonston-66	Page-68	Bilateral	.	.	.	Continuous	2500 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	395MLA-R	240	.	.	17.00	32.00	32.00	12.30	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
34	Hamster	Golden syrian	0.11	Kohn-57		Whole-body	552(6.8)	7.4(0.70)	339	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	451MLA-R	406	28	0	.	30.00	30.00	15.00	0.00	0.736
2	451MLA-R	406	27	0	.	30.00	30.00	15.00	0.00	0.736
3	534MLA-R	480	21	2	.	30.00	30.00	16.00	0.00	0.870
4	534MLA-R	480	30	10	.	30.00	30.00	16.00	0.00	0.870
5	612MLA-R	551	37	17	.	30.00	30.00	18.40	0.00	0.999
6	612MLA-R	581	45	23	.	30.00	30.00	18.40	0.00	1.053
7	585MLA-R	617	32	26	.	30.00	30.00	20.60	0.00	1.118
8	685MLA-R	617	40	33	.	30.00	30.00	20.60	0.00	1.118
9	750MLA-R	675	26	26	.	30.00	30.00	22.50	0.00	1.223
10	750MLA-R	675	35	32	.	30.00	30.00	22.50	0.00	1.223
11	828MLA-R	745	5	5	.	30.00	30.00	24.80	0.00	1.350
12	828MLA-R	745	13	13	.	30.00	30.00	24.80	0.00	1.350

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
35	Hamster	Chinese	0.28	Corbascio-62		Whole-body	.	.	234	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	863MLA-R	696	.	.	.	44.00	44.00	20.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
36	Mouse	Albino	.	Frolen-61		Whole-body	380(5.1)	5.1(0.46)	490	Continuous	260 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	252MLA-R	217	59	1	14.70	84.00	84.00	3.00	0.00	0.571
2	336MLA-R	289	70	3	14.70	84.00	84.00	4.00	0.00	0.761
3	378MLA-R	325	69	21	14.70	84.00	84.00	4.50	0.00	0.856
4	420MLA-R	361	110	34	14.70	84.00	84.00	5.00	0.00	0.950
5	462MLA-R	397	65	37	14.70	84.00	84.00	5.50	0.00	1.045
6	504MLA-R	433	68	57	14.70	84.00	84.00	6.00	0.00	1.140
7	588MLA-R	506	49	45	14.70	84.00	84.00	7.00	0.00	1.332

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
37	Mouse	C57	.	Kaplan-52		Whole-body	387(8.3)	4.7(0.58)	1753	Continuous	120 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	283MLA-R	226	27	1	34.00	31.00	32.00	9.10	0.00	0.583
2	336MLA-R	269	31	2	33.00	31.00	32.00	10.80	0.00	0.694
3	400MLA-R	320	42	7	11.00	31.00	32.00	12.90	0.00	0.826
4	475MLA-R	380	42	12	17.00	31.00	32.00	15.30	0.00	0.981
5	566MLA-R	453	84	70	10.00	31.00	32.00	18.30	0.00	1.169

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
38	Mouse	RF	0.02	Upton-56		Rotated	455(6.5)	9.6(1.47)	120	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	440MLA-R	389	24	3	.	79.80	79.80	5.50	0.00	0.855
2	480MLA-R	424	24	5	.	79.80	79.80	6.00	0.00	0.932
3	520MLA-R	460	24	11	.	79.80	79.80	6.50	0.00	1.011
4	560MLA-R	495	24	18	.	79.80	79.80	7.00	0.00	1.088
5	600MLA-R	530	24	24	.	79.80	79.80	7.50	0.00	1.165

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
39	Mouse	C57BL	.	Kallman-62		Whole-body	524(13.0)	8.5(1.71)	149	Continuous	120 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	600MT-R	518	8	3	14.50	18.40	18.40	33.00	0.00	0.989
2	600MT-R	518	8	5	8.60	18.40	18.40	33.00	0.00	0.989
3	600MT-R	518	8	5	13.50	18.40	18.40	33.00	0.00	0.989
4	665MT-R	574	12	9	12.10	18.40	18.40	36.00	0.00	1.096
5	665MT-R	574	8	5	11.00	18.40	18.40	36.00	0.00	1.096
6	665MT-R	574	8	6	11.80	18.40	18.40	36.00	0.00	1.096
7	665MT-R	574	8	8	13.40	18.40	18.40	36.00	0.00	1.096
8	690MT-R	596	11	5	10.60	18.40	18.40	38.00	0.00	1.138
9	730MT-R	630	12	12	9.50	18.40	18.40	40.00	0.00	1.203
10	730MT-R	630	8	8	6.80	18.40	18.40	40.00	0.00	1.203
11	730MT-R	630	8	8	8.60	18.40	18.40	40.00	0.00	1.203
12	740MT-R	639	8	8	8.10	18.40	18.40	40.00	0.00	1.220
13	760MT-R	656	11	11	10.10	18.40	18.40	41.00	0.00	1.253
14	795MT-R	686	12	12	8.10	18.40	18.40	43.00	0.00	1.310
15	806MT-R	696	8	8	7.20	18.40	18.40	44.00	0.00	1.329
16	830MT-R	717	11	11	6.10	18.40	18.40	45.00	0.00	1.369

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
40	Mouse	CF1	.	Carter-56		Whole-body	570(13.5)	4.5(0.60)	238	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		353	20	2	9.00	25.00	25.00	14.10	0.00	0.619
2		353	20	0	.	25.00	25.00	14.10	0.00	0.619
3		412	20	3	19.30	25.00	25.00	16.50	0.00	0.722
4		412	20	0	.	25.00	25.00	16.50	0.00	0.722
5		471	19	5	12.50	25.00	25.00	18.80	0.00	0.826
6		471	20	1	14.00	25.00	25.00	18.80	0.00	0.826
7		530	20	12	12.40	25.00	25.00	21.20	0.00	0.929
8		530	20	1	15.00	25.00	25.00	21.20	0.00	0.929
9		589	19	14	11.00	25.00	25.00	23.60	0.00	1.033
10		589	20	3	13.30	25.00	25.00	23.60	0.00	1.033
11		642	20	20	11.70	25.00	25.00	25.70	0.00	1.125
12		642	20	14	16.00	25.00	25.00	25.70	0.00	1.125

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
41	Mouse	C3H	.	Frolen-61		Whole-body	575(6.9)	5.7(0.43)	560	Continuous	260 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	504MLA-R	433	49	0	14.20	84.00	84.00	6.00	0.00	0.754
2	588MLA-R	506	96	20	14.20	84.00	84.00	7.00	0.00	0.881
3	672MLA-R	578	99	64	14.20	84.00	84.00	8.00	0.00	1.006
4	756MLA-R	650	106	79	14.20	84.00	84.00	9.00	0.00	1.131
5	840MLA-R	722	94	81	14.20	84.00	84.00	10.00	0.00	1.257
6	924MLA-R	795	68	65	14.20	84.00	84.00	11.00	0.00	1.384
7	1008MLA-R	867	48	48	14.20	84.00	84.00	12.00	0.00	1.509

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
42	Mouse	F1-Hybrid	.	Frolen-61		Whole-body	577(5.4)	7.4(0.52)	678	Continuous	260 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	336MLA-R	289	20	0	16.20	84.00	84.00	4.00	0.00	0.501
2	420MLA-R	361	70	0	16.20	84.00	84.00	5.00	0.00	0.626
3	504MLA-R	433	99	1	16.20	84.00	84.00	6.00	0.00	0.750
4	588MLA-R	506	100	9	16.20	84.00	84.00	7.00	0.00	0.877
5	672MLA-R	578	128	76	16.20	84.00	84.00	8.00	0.00	1.002
6	756MLA-R	650	108	91	16.20	84.00	84.00	9.00	0.00	1.126
7	840MLA-R	722	86	82	16.20	84.00	84.00	10.00	0.00	1.251
8	924MLA-R	795	67	63	16.20	84.00	84.00	11.00	0.00	1.378

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
43	Mouse	F2-Hybrid	.	Frolen-61		Whole-body	580(5.7)	5.9(0.33)	1034	Continuous	260 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	252MLA-R	217	69	0	14.70	84.00	84.00	3.00	0.00	0.374
2	336MLA-R	289	78	0	14.70	84.00	84.00	4.00	0.00	0.498
3	420MLA-R	361	138	1	14.70	84.00	84.00	5.00	0.00	0.622
4	504MLA-R	433	146	10	14.70	84.00	84.00	6.00	0.00	0.746
5	588MLA-R	506	128	18	14.70	84.00	84.00	7.00	0.00	0.872
6	672MLA-R	578	126	57	14.70	84.00	84.00	8.00	0.00	0.996
7	756MLA-R	650	124	103	14.70	84.00	84.00	9.00	0.00	1.120
8	840MLA-R	722	123	108	14.70	84.00	84.00	10.00	0.00	1.244
9	924MLA-R	795	102	99	14.70	84.00	84.00	11.00	0.00	1.370

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
44	Mouse	C57BL	0.02	Strike	SR68-6	Whole-body	589(7.5)	4.8(0.31)	728	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		0	48	0	.	23.00	23.00	0.00	0.00	0.000
2		437	47	0	.	23.00	23.00	22.00	0.00	0.742
3		437	50	6	16.50	23.00	23.00	22.00	0.00	0.742
4		492	48	18	11.10	23.00	23.00	25.00	0.00	0.835
5		546	48	14	9.80	23.00	23.00	27.00	0.00	0.927
6		546	50	19	13.70	23.00	23.00	27.00	0.00	0.927
7		601	48	31	9.00	23.00	23.00	30.00	0.00	1.020
8		656	48	20	9.90	23.00	23.00	32.00	0.00	1.113
9		656	49	26	11.80	23.00	23.00	32.00	0.00	1.113
10		710	48	41	7.50	23.00	23.00	36.00	0.00	1.205
11		765	48	42	8.70	23.00	23.00	38.00	0.00	1.298
12		765	50	49	8.50	23.00	23.00	38.00	0.00	1.298
13		819	48	46	6.70	23.00	23.00	41.00	0.00	1.390
14		874	48	48	9.30	23.00	23.00	44.00	0.00	1.483
15		874	50	50	6.00	23.00	23.00	44.00	0.00	1.483

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
45	Mouse	WR-B	0.02	Dacquisto-60		Whole-body	608(18.3)	4.6(0.59)	195	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	350MLA-R	312	35	0	.	30.00	30.00	12.00	0.00	0.513
2	440MLA-R	393	35	2	15.00	30.00	30.00	15.00	0.00	0.646
3	600MLA-R	535	35	8	9.00	30.00	30.00	20.00	0.00	0.880
4	770MLA-R	687	35	23	12.00	30.00	30.00	26.00	0.00	1.130
5	1000MLA-R	892	35	35	10.00	30.00	30.00	33.00	0.00	1.467
6	1200MLA-R	1071	20	20	6.00	30.00	30.00	40.00	0.00	1.762

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
46	Mouse	F1-Hybrid	.	Frolen-61		Whole-body	622(7.1)	6.0(0.42)	562	Continuous	260 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	504MLA-R	433	59	2	14.00	84.00	84.00	6.00	0.00	0.696
2	588MLA-R	506	88	6	14.00	84.00	84.00	7.00	0.00	0.813
3	672MLA-R	578	86	27	14.00	84.00	84.00	8.00	0.00	0.929
4	756MLA-R	650	87	54	14.00	84.00	84.00	9.00	0.00	1.045
5	840MLA-R	722	100	88	14.00	84.00	84.00	10.00	0.00	1.160
6	924MLA-R	795	85	77	14.00	84.00	84.00	11.00	0.00	1.278
7	1008MLA-R	867	57	54	14.00	84.00	84.00	12.00	0.00	1.394

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
47	Mouse	CF1	0.02	Delihas-58		Rotated	627(8.7)	6.0(0.87)	287	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		475	25	2	.	195.00	195.00	2.60	0.00	0.758
2		480	24	2	.	195.00	195.00	2.60	0.00	0.766
3		536	10	1	.	195.00	195.00	2.90	0.00	0.855
4		566	24	6	.	195.00	195.00	3.10	0.00	0.903
5		588	25	9	.	195.00	195.00	3.20	0.00	0.938
6		624	80	46	.	195.00	195.00	3.40	0.00	0.995
7		626	25	5	.	195.00	195.00	3.40	0.00	0.998
8		648	24	8	.	195.00	195.00	3.50	0.00	1.034
9		665	25	17	.	195.00	195.00	3.60	0.00	1.061
10		702	25	23	.	195.00	195.00	3.80	0.00	1.120

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
48	Mouse	C57BL	.	Kallman-62		Whole-body	630(10.7)	10.4(1.88)	153	Continuous	120 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	715MT-R	617	8	3	13.00	4.84	4.84	148.00	0.00	0.980
2	715MT-R	617	12	5	12.70	4.84	4.84	148.00	0.00	0.980
3	715MT-R	617	8	4	15.60	4.84	4.84	148.00	0.00	0.980
4	730MT-R	630	8	3	13.80	4.84	4.84	151.00	0.00	1.000
5	790MT-R	682	8	8	11.50	4.84	4.84	163.00	0.00	1.083
6	790MT-R	682	12	11	13.40	4.84	4.84	163.00	0.00	1.083
7	790MT-R	682	8	7	11.10	4.84	4.84	163.00	0.00	1.083
8	805MT-R	695	8	8	13.50	4.84	4.84	166.00	0.00	1.103
9	825MT-R	711	11	4	13.80	4.84	4.84	170.00	0.00	1.129
10	865MT-R	746	8	8	8.30	4.84	4.84	179.00	0.00	1.184
11	865MT-R	746	12	12	9.50	4.84	4.84	179.00	0.00	1.184
12	865MT-R	746	8	8	9.10	4.84	4.84	179.00	0.00	1.184
13	880MT-R	759	8	8	9.20	4.84	4.84	182.00	0.00	1.205
14	900MT-R	777	11	11	10.00	4.84	4.84	186.00	0.00	1.234
15	945MT-R	815	12	12	9.80	4.84	4.84	195.00	0.00	1.294
16	1000MT-R	863	11	11	7.40	4.84	4.84	207.00	0.00	1.370

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
49	Mouse	F2-Hybrid	.	Frolen-61		Whole-body	641(7.2)	5.9(0.38)	674	Continuous	260 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	504MLA-R	433	77	0	13.40	84.00	84.00	6.00	0.00	0.675
2	520MLA-R	447	30	0	13.40	84.00	84.00	6.00	0.00	0.697
3	588MLA-R	506	73	8	13.40	84.00	84.00	7.00	0.00	0.789
4	672MLA-R	578	96	26	13.40	84.00	84.00	8.00	0.00	0.901
5	756MLA-R	650	91	52	13.40	84.00	84.00	9.00	0.00	1.014
6	840MLA-R	722	80	55	13.40	84.00	84.00	10.00	0.00	1.126
7	924MLA-R	795	74	66	13.40	84.00	84.00	11.00	0.00	1.240
8	1008MLA-R	867	76	75	13.40	84.00	84.00	12.00	0.00	1.352
9	1092MLA-R	939	77	76	13.40	84.00	84.00	13.00	0.00	1.465

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
50	Mouse	CBA	.	Frolen-61		Whole-body	645(5.3)	8.1(0.61)	526	Continuous	260 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	588MLA-R	506	65	5	14.70	84.00	84.00	7.00	0.00	0.785
2	672MLA-R	578	123	13	14.70	84.00	84.00	8.00	0.00	0.896
3	756MLA-R	650	134	74	14.70	84.00	84.00	9.00	0.00	1.008
4	840MLA-R	722	130	111	14.70	84.00	84.00	10.00	0.00	1.120
5	924MLA-R	795	74	69	14.70	84.00	84.00	11.00	0.00	1.233

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
51	Mouse	RF	0.02	Upton-56		Rotated	648(15.5)	7.2(1.39)	136	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	643MLA-R	571	10	3	.	62.00	62.00	10.30	0.00	0.881
2	704MLA-R	628	10	2	.	62.00	62.00	11.30	0.00	0.969
3	765MLA-R	682	10	8	.	62.00	62.00	12.30	0.00	1.052
4	771MLA-R	688	24	16	.	62.00	62.00	12.30	0.00	1.061
5	820MLA-R	731	24	19	.	62.00	62.00	13.10	0.00	1.127
6	827MLA-R	737	10	7	.	62.00	62.00	13.30	0.00	1.137
7	868MLA-R	774	24	21	.	62.00	62.00	13.90	0.00	1.194
8	916MLA-R	817	24	24	.	62.00	62.00	14.60	0.00	1.260

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
52	Mouse	M.Musculus-W	.	Golley-65		Whole-body	666(55.8)	3.3(0.90)	50	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	0MLA-R	0	10	1	.	25.00	25.00	0.00	0.00	0.000
2	580MLA-R	516	10	2	.	25.00	25.00	23.20	0.00	0.774
3	870MLA-R	774	10	7	18.00	25.00	25.00	34.80	0.00	1.161
4	1160MLA-R	1032	10	9	11.00	25.00	25.00	46.40	0.00	1.548
5	1450MLA-R	1291	10	10	.	25.00	25.00	58.00	0.00	1.937

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
53	Mouse	LAF1	0.02	Cronkite-55		Whole-body	670(2.3)	9.2(0.31)	4713	Continuous	Gamma

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	192MT-R	172	220	2	21.00	100000.00	100000.00	0.00	0.00	0.257
2	287MT-R	257	220	6	18.20	100000.00	100000.00	0.00	0.00	0.384
3	318MT-R	285	220	7	21.60	100000.00	100000.00	0.00	0.00	0.425
4	367MT-R	329	220	6	18.30	100000.00	100000.00	0.00	0.00	0.491
5	424MT-R	380	220	8	18.10	100000.00	100000.00	0.00	0.00	0.567
6	491MT-R	440	219	8	15.20	100000.00	100000.00	0.00	0.00	0.657
7	556MT-R	498	219	7	16.80	100000.00	100000.00	0.00	0.00	0.743
8	631MT-R	565	217	9	12.90	100000.00	100000.00	0.00	0.00	0.843
9	687MT-R	615	220	28	13.80	100000.00	100000.00	0.00	0.00	0.918
10	711MT-R	637	220	51	13.10	100000.00	100000.00	0.00	0.00	0.951
11	733MT-R	657	220	64	14.50	100000.00	100000.00	0.00	0.00	0.981
12	759MT-R	680	220	123	13.20	100000.00	100000.00	0.00	0.00	1.015
13	785MT-R	703	220	141	12.90	100000.00	100000.00	0.00	0.00	1.049
14	812MT-R	727	220	173	12.40	100000.00	100000.00	0.00	0.00	1.085
15	841MT-R	753	220	201	12.10	100000.00	100000.00	0.00	0.00	1.124
16	870MT-R	779	220	210	10.70	100000.00	100000.00	0.00	0.00	1.163
17	900MT-R	806	220	220	9.80	100000.00	100000.00	0.00	0.00	1.203
18	932MT-R	835	220	219	9.90	100000.00	100000.00	0.00	0.00	1.246
19	965MT-R	865	218	218	9.20	100000.00	100000.00	0.00	0.00	1.291
20	999MT-R	895	60	60	9.00	100000.00	100000.00	0.00	0.00	1.336
21	1034MT-R	926	60	60	9.00	100000.00	100000.00	0.00	0.00	1.382
22	1070MT-R	959	60	60	8.40	100000.00	100000.00	0.00	0.00	1.432
23	1108MT-R	993	60	60	8.60	100000.00	100000.00	0.00	0.00	1.482
24	1173MT-R	1051	60	60	7.00	100000.00	100000.00	0.00	0.00	1.569
25	1252MT-R	1122	60	60	5.20	100000.00	100000.00	0.00	0.00	1.675
26	1494MT-R	1339	60	60	4.50	100000.00	100000.00	0.00	0.00	1.999
27	1954MT-R	1750	60	60	4.30	100000.00	100000.00	0.00	0.00	2.612
28	3464MT-R	3866	60	60	4.70	100000.00	100000.00	0.00	0.00	5.771

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
54	Mouse	C57BL	.	Strike	SR69-19	Bilateral	680(9.2)	7.8(0.95)	260	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		432	30	0	.	23.00	23.00	20.00	0.00	0.636
2		540	50	1	.	23.00	23.00	26.00	0.00	0.794
3		594	50	10	13.00	23.00	23.00	28.00	0.00	0.874
4		648	50	16	12.00	23.00	23.00	31.00	0.00	0.953
5		702	50	29	15.00	23.00	23.00	33.00	0.00	1.033
6		810	30	28	8.00	23.00	23.00	39.00	0.00	1.192

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
55	Mouse	C3H	.	Strike	SR69-19	Bilateral	688(11.6)	5.1(0.50)	365	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		378	43	1	.	23.00	23.00	18.00	0.00	0.550
2		432	38	2	14.00	23.00	23.00	21.00	0.00	0.628
3		486	37	3	13.00	23.00	23.00	23.00	0.00	0.707
4		540	38	3	11.00	23.00	23.00	26.00	0.00	0.785
5		594	37	6	10.00	23.00	23.00	28.00	0.00	0.864
6		648	22	6	11.00	23.00	23.00	31.00	0.00	0.942
7		702	50	6	14.00	23.00	23.00	33.00	0.00	1.021
8		756	50	47	8.00	23.00	23.00	36.00	0.00	1.099
9		864	50	50	10.00	23.00	23.00	41.00	0.00	1.256

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
56	Mouse	C57BL	.	Kallman-62		Whole-body	693(35.7)	4.9(2.23)	84	Continuous	120 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	790MT-R	682	12	7	13.20	2.19	2.19	361.00	0.00	0.984
2	845MT-R	729	9	6	12.10	2.19	2.19	386.00	0.00	1.052
3	865MT-R	746	22	11	14.50	2.19	2.19	395.00	0.00	1.076
4	910MT-R	785	9	6	12.30	2.19	2.19	416.00	0.00	1.133
5	940MT-R	811	23	19	11.30	2.19	2.19	429.00	0.00	1.170
6	975MT-R	841	9	8	9.80	2.19	2.19	444.00	0.00	1.213

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
57	Mouse	WR-B	0.02	Dacquisto-60		Whole-body	708(26.5)	3.2(0.41)	195	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	350MLA-R	312	35	0	.	3.00	3.00	117.00	0.00	0.441
2	440MLA-R	393	35	3	22.00	3.00	3.00	147.00	0.00	0.555
3	600MLA-R	535	35	4	14.00	3.00	3.00	200.00	0.00	0.756
4	770MLA-R	687	35	15	13.00	3.00	3.00	257.00	0.00	0.970
5	1000MLA-R	892	35	26	13.50	3.00	3.00	333.00	0.00	1.260
6	1200MLA-R	1071	20	20	13.00	3.00	3.00	400.00	0.00	1.513

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
58	Mouse	R	.	Brown-60		Whole-body	767(13.0)	9.9(1.80)	95	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		650	19	1	.	54.40	54.40	11.90	0.00	0.847
2		750	19	8	.	54.40	54.40	13.80	0.00	0.978
3		800	19	13	.	54.40	54.40	14.70	0.00	1.043
4		850	19	15	.	54.40	54.40	15.60	0.00	1.108
5		950	19	19	.	54.40	54.40	17.50	0.00	1.238

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
59	Mouse	R	.	Brown-60		Whole-body	787(13.4)	12.9(2.67)	57	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		700	19	2	.	27.00	27.00	25.90	0.00	0.889
2		800	19	9	.	27.00	27.00	29.60	0.00	1.016
3		900	19	19	.	27.00	27.00	33.30	0.00	1.144

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
60	Mouse	CBA	.	Neal-60		Whole-body	788(10.7)	11.3(2.19)	130	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		750	20	4	.	786.00	786.00	1.06	0.00	0.952
2		803	40	24	.	786.00	786.00	1.14	0.00	1.019
3		855	40	37	.	786.00	786.00	1.21	0.00	1.085
4		910	30	26	.	786.00	786.00	1.29	0.00	1.155

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
61	Mouse	R	.	Brown-60		Whole-body	803(13.2)	13.5(2.72)	76	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		700	19	0	.	54.40	54.40	12.90	0.00	0.872
2		800	19	11	.	54.40	54.40	14.70	0.00	0.996
3		900	19	17	.	54.40	54.40	16.50	0.00	1.121
4		1000	19	19	.	54.40	54.40	18.40	0.00	1.245

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
62	Mouse	CBA	.	Corp-59		Unilateral	813(11.2)	8.8(2.04)	120	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		750	35	9	.	70.40	70.40	11.00	0.00	0.923
2		800	35	14	.	70.40	70.40	11.00	0.00	0.984
3		850	35	24	.	70.40	70.40	11.00	0.00	1.046
4		900	15	12	.	70.40	70.40	11.00	0.00	1.107

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
63	Mouse	CF1	0.02	Vogel-57		Whole-body	823(4.1)	7.3(0.40)	3894	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	220	.	.	10.00	12.00	0.00	0.00	0.000
2	0MLA-R	0	2100	.	.	10.00	12.00	0.00	0.00	0.000
3	752MLA-R	669	136	9	15.40	10.00	12.00	75.20	0.00	0.813
4	788MLA-R	701	80	16	15.30	10.00	12.00	78.80	0.00	0.852
5	838MLA-R	746	136	30	15.20	10.00	12.00	83.80	0.00	0.906
6	874MLA-R	778	144	56	14.50	10.00	12.00	87.40	0.00	0.945
7	910MLA-R	810	152	71	15.40	10.00	12.00	91.00	0.00	0.984
8	914MLA-R	813	124	37	16.80	10.00	12.00	91.40	0.00	0.988
9	956MLA-R	851	140	79	14.70	10.00	12.00	95.60	0.00	1.034
10	975MLA-R	868	100	60	14.30	10.00	12.00	97.50	0.00	1.054
11	998MLA-R	888	90	72	13.30	10.00	12.00	99.80	0.00	1.079
12	1031MLA-R	918	164	128	14.30	10.00	12.00	103.10	0.00	1.115
13	1056MLA-R	940	72	63	13.50	10.00	12.00	105.60	0.00	1.142
14	1092MLA-R	972	80	75	13.00	10.00	12.00	109.20	0.00	1.181

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
64	Mouse	R	.	Brown-60		Whole-body	827(12.3)	11.3(2.33)	76	Interrupted	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		750	19	3	.	13.70	53.50	54.70	40.70	0.907
2		800	19	6	.	14.50	53.50	55.00	40.00	0.968
3		850	19	12	.	15.40	53.50	55.30	39.40	1.028
4		950	19	18	.	17.00	53.50	55.90	38.10	1.149

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
65	Mouse	CBA	.	Neal-60		Whole-body	845(8.9)	11.6(2.00)	135	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		750	30	3	.	76.00	76.00	11.00	0.00	0.888
2		800	35	8	.	76.00	76.00	11.70	0.00	0.947
3		850	35	19	.	76.00	76.00	12.40	0.00	1.006
4		900	35	27	.	76.00	76.00	13.20	0.00	1.065

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
66	Mouse	R	.	Brown-60		Whole-body	884(14.2)	13.0(2.55)	76	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		800	19	2	.	6.10	6.10	132.00	0.00	0.905
2		900	19	11	.	6.10	6.10	148.00	0.00	1.018
3		1000	19	18	.	6.10	6.10	165.00	0.00	1.132
4		1100	19	19	.	6.10	6.10	181.00	0.00	1.245

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
67	Mouse	R	.	Brown-60		Whole-body	916(22.9)	6.0(1.09)	95	Interrupted	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		700	19	2	.	4.30	27.00	163.00	137.00	0.764
2		800	19	3	.	4.90	27.00	163.00	134.00	0.873
3		900	19	7	.	5.50	27.00	164.00	130.00	0.982
4		1000	19	14	.	6.10	27.00	164.00	127.00	1.092
5		1100	19	17	.	6.70	27.00	165.00	124.00	1.201

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
68	Mouse	R	.	Brown-60		Whole-body	936(22.0)	7.2(1.53)	76	Interrupted	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		750	19	2	.	3.80	18.60	200.00	160.00	0.801
2		850	19	2	.	4.30	18.60	200.00	154.00	0.908
3		950	19	12	.	4.80	18.60	200.00	149.00	1.015
4		1050	19	15	.	5.30	18.60	200.00	144.00	1.122

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
69	Mouse	CBA	.	Neal-60		Whole-body	947(8.3)	17.7(3.07)	100	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		850	25	1	.	7.90	7.90	119.00	0.00	0.898
2		900	25	5	.	8.30	8.30	120.00	0.00	0.951
3		950	25	11	.	8.80	8.80	120.00	0.00	1.004
4		1000	25	22	.	9.20	9.20	120.00	0.00	1.056

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
70	Mouse	P.Gossypinus-W	.	Golley-65		Whole-body	973(90.9)	3.9(1.50)	25	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	0MLA-R	0	5	1	.	25.00	25.00	0.00	0.00	0.000
2	870MLA-R	774	5	1	30.00	25.00	25.00	34.80	0.00	0.796
3	1160MLA-R	1032	5	3	25.00	25.00	25.00	46.40	0.00	1.061
4	1450MLA-R	1291	5	4	.	25.00	25.00	58.00	0.00	1.327
5	1740MLA-R	1549	5	5	.	25.00	25.00	69.60	0.00	1.592

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
71	Mouse	R	.	Brown-60		Whole-body	1008(20.1)	13.1(3.74)	57	Interrupted	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		1000	19	9	.	2.90	17.90	343.00	287.00	0.992
2		1100	19	16	.	3.20	17.90	343.00	282.00	1.091
3		1200	19	19	.	3.50	17.90	344.00	277.00	1.190

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
72	Mouse	R	.	Brown-60		Whole-body	1026(19.0)	9.9(1.88)	76	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		895	19	2	.	2.50	2.50	360.00	0.00	0.872
2		1020	19	9	.	2.80	2.80	360.00	0.00	0.994
3		1116	19	14	.	3.10	3.10	360.00	0.00	1.087
4		1242	19	19	.	3.50	3.50	360.00	0.00	1.210

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
73	Mouse	CBA	.	Neal-60		Whole-body	1029(10.3)	21.5(4.24)	95	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		900	25	0	.	4.29	4.29	233.00	0.00	0.875
2		1000	25	7	.	4.62	4.62	241.00	0.00	0.972
3		1100	25	23	.	5.10	5.10	239.00	0.00	1.069
4		1200	20	20	.	5.60	5.60	240.00	0.00	1.166

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
74	Mouse	CBA	.	Neal-60		Whole-body	1039(12.2)	19.2(3.95)	80	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		900	20	0	.	2.80	2.80	360.00	0.00	0.867
2		1000	20	5	.	3.10	3.10	357.00	0.00	0.963
3		1100	20	17	.	3.40	3.40	359.00	0.00	1.059
4		1200	20	20	.	3.70	3.70	359.00	0.00	1.155

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
75	Mouse	R	.	Brown-60		Whole-body	1060(24.9)	7.0(1.27)	95	Interrupted	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		907	19	5	.	2.60	55.30	355.00	339.00	0.856
2		1060	19	5	.	3.00	55.30	355.00	336.00	1.000
3		1145	19	13	.	3.20	55.30	355.00	335.00	1.081
4		1270	19	18	.	3.60	55.30	355.00	332.00	1.199
5		1360	19	19	.	3.80	55.30	355.00	331.00	1.284

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
76	Mouse	R	.	Brown-60		Whole-body	1071(16.7)	12.2(2.37)	76	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		995	19	5	.	2.80	2.80	360.00	0.00	0.929
2		1070	19	7	.	3.00	3.00	360.00	0.00	0.999
3		1210	19	18	.	3.40	3.40	360.00	0.00	1.130
4		1284	19	19	.	3.60	3.60	360.00	0.00	1.199

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
77	Mouse	R	.	Brown-60		Whole-body	1077(17.3)	12.0(2.39)	76	Interrupted	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		1000	19	3	.	2.90	6.10	349.00	185.00	0.928
2		1100	19	13	.	3.10	6.10	350.00	169.00	1.021
3		1200	19	16	.	3.40	6.10	351.00	154.00	1.114
4		1300	19	19	.	3.70	6.10	352.00	138.00	1.207

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
78	Mouse	R	.	Brown-60		Whole-body	1085(18.7)	10.2(1.70)	95	Interrupted	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		885	19	0	.	2.60	55.30	341.00	325.00	0.815
2		995	19	5	.	2.90	55.30	341.00	323.00	0.917
3		1105	19	10	.	3.20	55.30	341.00	321.00	1.018
4		1215	19	16	.	3.60	55.30	341.00	319.00	1.120
5		1326	19	19	.	3.90	55.30	341.00	317.00	1.222

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
79	Mouse	R	.	Brown-60		Whole-body	1092(17.8)	12.6(3.03)	57	Interrupted	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		950	19	0	.	2.80	54.40	341.00	324.00	0.870
2		1050	19	8	.	3.10	54.40	341.00	322.00	0.961
3		1150	19	13	.	3.40	54.40	341.00	320.00	1.053

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
80	Mouse	CBA	.	Neal-60		Whole-body	1095(11.8)	14.9(2.26)	120	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		1000	30	2	.	2.30	2.30	476.00	0.00	0.913
2		1100	30	16	.	2.60	2.60	478.00	0.00	1.004
3		1200	30	29	.	2.80	2.80	480.00	0.00	1.095
4		1300	30	29	.	3.00	3.00	481.00	0.00	1.187

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
81	Mouse	P.Polionotus-W	.	Golley-65		Whole-body	1146(56.3)	5.0(1.23)	55	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	11	0	.	25.00	25.00	0.00	0.00	0.000
2	870MLA-R	774	11	0	30.00	25.00	25.00	34.80	0.00	0.675
3	1160MLA-R	1032	11	4	25.00	25.00	25.00	46.40	0.00	0.901
4	1450MLA-R	1291	11	8	.	25.00	25.00	58.00	0.00	1.127
5	1740MLA-R	1549	11	10	.	25.00	25.00	69.60	0.00	1.352

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
82	Mouse	CF-NO.1	0.02	Vogel-57		Whole-body	1159(7.0)	10.9(1.45)	426	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	1230MLA-R	1078	30	5	13.40	1.00	1.00	1230.00	0.00	0.930
2	1262MLA-R	1106	24	10	13.40	1.00	1.00	1262.00	0.00	0.954
3	1308MLA-R	1146	114	59	13.40	1.00	1.00	1308.00	0.00	0.989
4	1325MLA-R	1160	62	32	13.40	1.00	1.00	1325.00	0.00	1.001
5	1351MLA-R	1184	72	33	13.40	1.00	1.00	1351.00	0.00	1.021
6	1370MLA-R	1200	38	21	13.40	1.00	1.00	1370.00	0.00	1.035
7	1406MLA-R	1232	24	17	13.40	1.00	1.00	1406.00	0.00	1.063
8	1470MLA-R	1288	38	36	13.40	1.00	1.00	1470.00	0.00	1.111
9	1508MLA-R	1321	24	23	13.40	1.00	1.00	1508.00	0.00	1.139

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
83	Mouse	CBA	.	Corp-59		Free-moving	1231(12.8)	11.8(1.38)	200	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		960	40	2	.	0.66	6.60	1500.00	60.00	0.780
2		1135	35	3	.	0.78	6.60	1500.00	60.00	0.922
3		1180	50	11	.	0.81	6.60	1500.00	60.00	0.959
4		1390	35	35	.	0.96	6.60	1500.00	60.00	1.130
5		1400	40	38	.	0.96	6.60	1500.00	60.00	1.138

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
84	Mouse	CBA	.	Corp-59		Free-moving	1339(11.0)	13.8(2.11)	185	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		1125	20	2	.	0.77	0.77	1500.00	0.00	0.840
2		1230	40	1	.	0.85	0.85	1500.00	0.00	0.919
3		1310	50	20	.	0.90	0.90	1500.00	0.00	0.978
4		1350	50	26	.	0.93	0.93	1500.00	0.00	1.008
5		1510	25	25	.	1.04	1.04	1500.00	0.00	1.128

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
85	Mouse	R	.	Brown-60		Whole-body	.	.	38	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		800	19	4	.	17.90	17.90	44.90	0.00	.
2		900	19	19	.	17.90	17.90	50.30	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
86	Mouse	CF-1	0.02	Thomson-53		Whole-body	.	.	254	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	772MLA-R	690	.	.	.	42.00	42.00	18.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
87	Mouse	CF-1	0.02	Thomson-53		Whole-body	.	.	80	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	785MLA-R	700	.	.	.	15.00	15.00	53.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
88	Mouse	CF-1	0.02	Thomson-53		Whole-body	.	.	140	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	800MLA-R	710	.	.	.	4.00	4.00	200.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
89	Mouse	CF-1	0.02	Thomson-53		Whole-body	.	.	120	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	1010MLA-R	900	.	.	.	1.45	1.45	696.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
90	Mouse	CF-1	0.02	Thomson-53		Whole-body	.	.	96	Continuous	Ta-182

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	1081MLA-R	960	.	.	.	0.62	0.62	1914.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
91	Mouse	CF-1	0.02	Thomson-53		Whole-body	.	.	100	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	1658MLA-R	1470	.	.	.	0.10	0.10	16560.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
92	Mouse	CF-1	0.02	Thomson-53		Whole-body	.	.	18	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	2760MLA-R	2500	.	.	.	0.08	0.08	34560.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
93	Mouse	BALB/C	.	Kallman-62		Whole-body	.	.	64	Continuous	120 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	550MT-R	480	.	.	13.50	17.70	17.70	31.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
94	Mouse	BALB/C	.	Kallman-62		Whole-body	.	.	32	Continuous	120 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	618MT-R	530	.	.	13.80	4.73	4.73	130.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
95	Mouse	BALB/C	.	Kallman-62		Whole-body	.	.	.	Continuous	120 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	631MT-R	550	.	.	.	2.22	2.22	280.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
96	Mouse	CF-1	.	Walburg-66		Rotated	.	.	256	Continuous	300 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	680MLA-R	610	.	.	.	100.00	100.00	6.80	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
97	Mouse	RFM/UN	.	Walburg-66		Rotated	.	.	146	Continuous	300 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	607MLA-R	550	.	.	.	100.00	100.00	6.10	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
98	Mouse	ICR	.	Walburg-66		Rotated	.	.	300	Continuous	300 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	730MLA-R	660	.	.	.	100.00	100.00	7.30	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
99	Mouse	CAF1	.	Kohn-56		Whole-body	.	.	556	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	656MLA-R	598	.	.	.	35.00	35.00	21.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
100	Mouse	BALB/C	.	Kohn-56		Whole-body	.	.	290	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	544MLA-R	496	.	.	.	35.00	35.00	17.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
101	Mouse	C57BL	.	Kohn-56		Whole-body	.	.	168	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	618MLA-R	563	.	.	.	35.00	35.00	19.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
102	Mouse	A/HE	.	Kohn-56		Whole-body	.	.	148	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	632MLA-R	576	.	.	.	35.00	35.00	18.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
103	Mouse	C3H	.	Kohn-56		Whole-body	.	.	307	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	665MLA-R	606	.	.	.	35.00	35.00	19.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
104	Mouse	ACF1	.	Kohn-56		Whole-body	.	.	118	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	649MLA-R	591	.	.	.	35.00	35.00	20.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
105	Mouse	RF-M	.	Melville-57		Unilateral	.	.	96	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	519MLA-R	460	.	.	.	100.00	100.00	5.20	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
106	Mouse	RF-F	.	Melville-57		Unilateral	.	.	96	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	560MLA-R	500	.	.	.	100.00	100.00	5.60	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
107	Mouse	CBA-F	.	Mole-56		Whole-body	.	.	1836	Continuous	240 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	883MLA-R	815	.	.	.	43.00	43.00	21.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
108	Mouse	CBA	.	Mole-56		Whole-body	.	.	160	Continuous	240 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	796MLA-R	734	.	.	.	43.00	43.00	19.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
109	Mouse	CBA	.	Mole-56		Whole-body	.	.	2353	Continuous	240 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	751MLA-R	693	.	.	.	43.00	43.00	17.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
110	Mouse	CBA	.	Mole-56		Whole-body	.	.	318	Continuous	240 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	771MLA-R	712	53	.	.	43.00	43.00	18.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
111	Mouse	C57BL	.	Kallman-62		Whole-body	.	.	30	Continuous	120 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	678MT-R	590	10	.	.	9.51	9.51	71.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
112	Mouse	LAF1	.	Leong-64		Whole-body	.	.	544	Continuous	1 MeV-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	940MLA-R	840	.	.	12.00	7.00	7.00	134.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
113	Mouse	BAF1	0.03	Grahn-56		Whole-body	.	.	924	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	636MLA-R	550	322	.	.	10.00	10.00	.	0.00	.
2	666MLA-R	570	308	.	.	10.00	10.00	.	0.00	.
3	816MLA-R	670	294	.	.	10.00	10.00	.	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
114	Mouse	CF1	.	Krebs-68			.	.	.		Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		.	.	.	.	27.00	107.00	.	.	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
115	Mouse	A	.	Paterson-52		Whole-body	.	.	44	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	538MLA-R	484	.	.	11.40	45.00	45.00	15.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
116	Mouse	A	.	Paterson-52		Whole-body	.	.	44	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	522MLA-R	470	.	.	11.70	45.00	45.00	15.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
117	Mouse	A	.	Paterson-52		Whole-body	.	.	880	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	448MLA-R	403	100	.	11.50	45.00	45.00	15.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
118	Mouse	A	.	Paterson-52		Whole-body	.	.	88	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	499MLA-R	449	.	.	12.90	45.00	45.00	15.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
119	Mouse	A	.	Paterson-52		Whole-body	.	.	88	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	581MLA-R	523	.	.	12.80	45.00	45.00	15.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
120	Mouse	C57BL	.	Kohn-57		Whole-body	.	.	368	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	614MLA-R	553	.	.	.	35.00	35.00	18.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
121	Mouse	C3H	.	Kohn-57		Whole-body	.	.	283	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	623MLA-R	561	.	.	.	35.00	35.00	18.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
122	Mouse	CAF1	.	Kohn-57		Whole-body	.	.	782	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	673MLA-R	606	.	.	.	35.00	35.00	19.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
123	Mouse	BALB/C	.	Kohn-57		Whole-body	.	.	869	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	552MLA-R	497	.	.	.	35.00	35.00	16.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
124	Mouse	A/HE	.	Kohn-57		Whole-body	.	.	358	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	619MLA-R	557	.	.	.	35.00	35.00	18.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
125	Mouse	BALB/C	.	Grahn-57		Whole-body	.	.	40	Continuous	200 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	500MLA-R	450	.	.	.	22.00	23.00	30.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
126	Mouse	A	.	Grahn-57		Whole-body	.	.	34	Continuous	200 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	552MLA-R	456	.	.	.	22.00	23.00	30.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
127	Mouse	A/HE	.	Grahn-57		Whole-body	.	.	32	Continuous	200 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	552MLA-R	462	.	.	.	22.00	23.00	30.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
128	Mouse	A/JAX	.	Grahn-57		Whole-body	.	.	35	Continuous	200 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	552MLA-R	450	.	.	.	22.00	23.00	30.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
129	Mouse	C3HF/HE	.	Grahn-57		Whole-body	.	.	44	Continuous	200 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	593MLA-R	474	.	.	.	22.00	23.00	30.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
130	Mouse	C57BL/6	.	Grahn-57		Whole-body	.	.	43	Continuous	200 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	630MLA-R	498	.	.	.	22.00	23.00	30.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
131	Mouse	P.Polionotus-L	.	Golley-65		Whole-body	.	.	45	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	15	0	.	25.00	25.00	0.00	0.00	.
2	870MLA-R	774	15	0	30.00	25.00	25.00	34.80	0.00	.
3	1160MLA-R	1032	15	0	25.00	25.00	25.00	46.40	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
132	Mouse	R.Humulis-W	.	Golley-65		Whole-body	.	.	20	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	5	0	.	25.00	25.00	0.00	0.00	.
2	870MLA-R	774	5	0	30.00	25.00	25.00	34.80	0.00	.
3	1160MLA-R	1032	5	1	25.00	25.00	25.00	46.40	0.00	.
4	1450MLA-R	1291	5	5	.	25.00	25.00	58.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
133	Mouse	M.Musculus-L	.	Golley-65		Whole-body	.	.	30	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	6	0	.	25.00	25.00	0.00	0.00	.
2	580MLA-R	516	6	0	.	25.00	25.00	23.20	0.00	.
3	870MLA-R	774	6	5	18.00	25.00	25.00	34.80	0.00	.
4	1160MLA-R	1032	6	6	11.00	25.00	25.00	46.40	0.00	.
5	1450MLA-R	1291	6	6	.	25.00	25.00	58.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
134	Mouse	P.Longimembris	0.01	Gambino-64		Whole-body	.	.	125	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	25	.	.	0.00	0.00	240.00	0.00	.
2	400MLA-R	335	25	.	.	1.70	1.70	240.00	0.00	.
3	600MLA-R	502	25	.	.	2.50	2.50	240.00	0.00	.
4	800MLA-R	670	25	.	.	3.30	3.30	240.00	0.00	.
5	1000MLA-R	837	25	.	.	4.20	4.20	240.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
135	Mouse	P.Longimembris	0.01	Gambino-64		Whole-body	.	.	200	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	25	.	.	0.00	0.00	240.00	0.00	.
2	0MLA-R	0	25	.	.	0.00	0.00	240.00	0.00	.
3	800MLA-R	670	25	.	.	3.30	3.30	240.00	0.00	.
4	1200MLA-R	1000	25	.	.	5.00	5.00	240.00	0.00	.
5	1400MLA-R	1170	25	.	.	5.80	5.80	240.00	0.00	.
6	1600MLA-R	1340	25	.	.	6.70	6.70	240.00	0.00	.
7	1800MLA-R	1510	25	.	.	7.50	7.50	240.00	0.00	.
8	2000MLA-R	1670	25	.	.	8.30	8.30	240.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
136	Mouse	P.Formosus	0.02	Gambino-64		Whole-body	.	.	38	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	9	.	.	0.00	0.00	240.00	0.00	.
2	600MLA-R	534	10	.	.	2.50	2.50	240.00	0.00	.
3	1200MLA-R	1068	10	.	.	5.00	5.00	240.00	0.00	.
4	1800MLA-R	1602	9	.	.	7.50	7.50	240.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
137	Mouse	P.Formosus	0.02	Gambino-64		Whole-body	.	.	71	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	24	.	.	0.00	0.00	240.00	0.00	.
2	1400MLA-R	1246	23	.	.	5.80	5.80	240.00	0.00	.
3	1600MLA-R	1424	24	.	.	6.70	6.70	240.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
138	Mouse	Swiss	.	Ellinger-50		Whole-body	.	.	63	Continuous	200 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	1000MLA-R	840	.	.	6.00	23.40	23.40	42.70	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
139	Mouse	A/HE	.	Kohn-57		Whole-body	.	.	358	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	350MT-R	301	.	.	.	35.00	35.00	10.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
140	Mouse	BALB/C	.	Kohn-57		Whole-body	.	.	869	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	350MT-R	301	.	.	.	35.00	35.00	10.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
141	Mouse	LAF1	.	Kohn-57		Whole-body	.	.	782	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	350MT-R	301	.	.	.	35.00	35.00	10.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
142	Mouse	C3H	.	Kohn-57		Whole-body	.	.	283	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	350MT-R	301	.	.	.	35.00	35.00	10.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
143	Mouse	C57BL	.	Kohn-57		Whole-body	.	.	368	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	350MT-R	301	.	.	.	35.00	35.00	10.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
144	Mouse	Swiss-white	.	Cronkite-50		Whole-body	.	.	100	Continuous	1000 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	703MLA-R	626	.	41	14.30	31.20	31.20	22.50	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
145	Mouse	CBA	.	Mole-56		Whole-body	.	.	153	Continuous	245 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	400MLA-R	356	.	.	.	45.90	48.80	8.70	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
146	Mouse	CBA	.	Mole-56		Whole-body	.	.	40	Continuous	245 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	400MLA-R	356	.	.	.	45.90	48.80	8.70	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
147	Mouse	CBA	.	Mole-56		Whole-body	.	.	53	Continuous	245 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	200MLA-R	178	.	.	.	45.90	48.80	4.40	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
148	Mouse	LAF1	.	Swift-54		Whole-body	.	.	86	Continuous	230 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	875MLA-R	805	44	33	.	44.00	46.00	19.90	0.00	.
2	875MLA-R	805	42	30	.	44.00	46.00	19.90	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
149	Primate	S.Fuscicollis	0.32	Gengozian-66		Rotational	159(17.9)	2.5(0.60)	58	Continuous	Cs-137

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	100MLA-R	90	11	1	27.00	4.10	4.10	24.40	0.00	0.566
2	200MLA-R	180	10	6	18.00	4.10	4.10	48.80	0.00	1.132
3	300MLA-R	270	8	7	14.00	4.10	4.10	73.20	0.00	1.699
4	400MLA-R	360	10	10	12.00	4.10	4.10	97.60	0.00	2.265
5	500MLA-R	450	2	2	10.00	4.10	4.10	122.00	0.00	2.831
6	600MLA-R	540	9	9	9.00	4.10	4.10	146.30	0.00	3.397
7	800MLA-R	720	6	6	8.00	4.10	4.10	195.10	0.00	4.530
8	1000MLA-R	900	2	2	7.00	4.10	4.10	243.90	0.00	5.662

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
150	Primate	Macaca-M	3.20	Allen-60	Page-68	4PI	365(49.3)	2.3(1.08)	35	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	400MLA-R	315	5	1	22.40	800.00	800.00	0.50	0.00	0.863
2	500MLA-R	393	8	7	15.00	800.00	800.00	0.60	0.00	1.076
3	575MLA-R	452	6	4	12.00	800.00	800.00	0.70	0.00	1.238
4	650MLA-R	511	6	2	14.80	800.00	800.00	0.80	0.00	1.400
5	725MLA-R	570	6	6	12.60	800.00	800.00	0.90	0.00	1.561
6	850MLA-R	669	4	4	13.80	800.00	800.00	1.10	0.00	1.832

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
151	Primate	Rhesus	.	Schlumberger-54		Rotated	450(22.2)	3.5(0.64)	92	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	300MLA-R	267	12	1	.	23.00	23.00	13.00	0.00	0.593
2	400MLA-R	356	8	2	.	23.00	23.00	17.00	0.00	0.790
3	500MLA-R	445	22	9	.	23.00	23.00	22.00	0.00	0.988
4	600MLA-R	534	9	5	.	23.00	23.00	26.00	0.00	1.186
5	700MLA-R	624	23	21	.	23.00	23.00	30.00	0.00	1.386
6	800MLA-R	713	8	8	.	23.00	23.00	35.00	0.00	1.583
7	900MLA-R	802	10	10	.	23.00	23.00	39.00	0.00	1.781

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
152	Primate	Rhesus-M	5.00	Henschke-57	Page-68	Rotated	458(19.4)	3.8(0.61)	110	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	300MLA-R	269	23	1	18.00	22.00	22.00	13.60	0.00	0.587
2	400MLA-R	358	9	2	15.50	22.00	22.00	18.10	0.00	0.781
3	500MLA-R	448	25	10	17.00	22.00	22.00	22.70	0.00	0.978
4	600MLA-R	538	9	5	13.80	22.00	22.00	27.20	0.00	1.174
5	700MLA-R	627	26	24	12.10	22.00	22.00	31.80	0.00	1.368
6	800MLA-R	717	9	9	8.20	22.00	22.00	36.30	0.00	1.564
7	900MLA-R	807	9	9	8.10	22.00	22.00	40.90	0.00	1.761

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
153	Primate	Macacamulatta	2.70	Eldred-54		Rotated	490(45.4)	2.8(1.02)	32	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	400MLA-R	360	8	2	11.50	13.70	13.70	29.20	0.00	0.735
2	550MLA-R	495	1	0	.	13.70	13.70	40.10	0.00	1.010
3	600MLA-R	540	7	3	15.30	13.70	13.70	43.80	0.00	1.102
4	700MLA-R	630	10	9	12.70	13.70	13.70	51.10	0.00	1.286
5	800MLA-R	720	6	5	5.80	13.70	13.70	58.40	0.00	1.470

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
154	Primate	Rhesus-M	3.60	Haigh-56	Page-68	Multisource	508(20.9)	5.3(2.30)	44	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	400MLA-R	358	2	0	14.70	3.00	3.00	133.00	0.00	0.705
2	450MLA-R	402	2	0	14.70	3.00	3.00	150.00	0.00	0.792
3	500MLA-R	447	11	3	14.70	3.00	3.00	167.00	0.00	0.880
4	550MLA-R	492	18	8	14.70	3.00	3.00	183.00	0.00	0.969
5	600MLA-R	537	9	6	14.70	3.00	3.00	200.00	0.00	1.058
6	650MLA-R	582	2	1	14.70	3.00	3.00	217.00	0.00	1.146

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
155	Primate	Macaca-M	4.30	Stanley-66	Page-68	Bilateral	512(21.5)	4.5(1.16)	80	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		0	20	0	.	20.00	20.00	0.00	0.00	0.000
2		395	10	1	.	20.00	20.00	20.00	0.00	0.772
3		490	10	3	.	20.00	20.00	24.00	0.00	0.957
4		520	10	8	.	20.00	20.00	26.00	0.00	1.016
5		580	10	6	.	20.00	20.00	29.00	0.00	1.133
6		620	10	8	.	20.00	20.00	31.00	0.00	1.211
7		680	10	9	.	20.00	20.00	34.00	0.00	1.328

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
156	Primate	Macaca-M	3.50	Dalrymple-65	Page-68	Rotated	667(21.5)	5.8(1.22)	98	Continuous	2 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MT-RAD	0	14	0	.	0.00	0.00	0.00	0.00	0.000
2	360MT-RAD	360	14	0	.	11.90	11.90	33.60	0.00	0.540
3	446MT-RAD	446	14	1	21.00	11.90	11.90	41.70	0.00	0.669
4	538MT-RAD	538	14	1	22.00	11.90	11.90	50.30	0.00	0.806
5	624MT-RAD	624	14	3	13.30	11.90	11.90	58.30	0.00	0.935
6	716MT-RAD	716	14	8	16.00	11.90	11.90	66.90	0.00	1.073
7	802MT-RAD	802	14	14	13.30	11.90	11.90	75.00	0.00	1.202

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
157	Primate	Rhesus-M	3.60	Paterson-56	Haigh-56	Multisource	.	.	44	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	570MLA-R	511	.	26	14.70	3.00	3.00	190.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
158	Primate		.	Eltringham-68	Page-68	Rotated	.	.	.	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		644	.	.	.	55.00	55.00	.	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
159	Rabbit	N.Zealand	3.10	Pryor-67		Whole-body	834(15.4)	6.4(1.25)	160	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	20	0	.	0.00	0.00	.	0.00	0.000
2	900MLA-R	740	20	8	21.00	100.00	100.00	9.00	0.00	0.887
3	950MLA-R	781	20	3	27.00	100.00	100.00	9.50	0.00	0.936
4	1000MLA-R	823	20	7	22.00	100.00	100.00	10.00	0.00	0.987
5	1050MLA-R	864	20	13	16.00	100.00	100.00	10.50	0.00	1.036
6	1100MLA-R	905	20	14	14.00	100.00	100.00	11.00	0.00	1.085
7	1150MLA-R	946	20	17	8.20	100.00	100.00	11.50	0.00	1.134
8	1200MLA-R	987	20	17	11.00	100.00	100.00	12.00	0.00	1.184

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
160	Rabbit	Mix	.	Rust-55		Multisource	892(28.8)	5.7(0.97)	100	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	800MLA-R	658	10	0	.	0.78	0.78	1020.00	0.00	0.737
2	900MLA-R	740	10	3	15.60	0.78	0.78	1150.00	0.00	0.829
3	1000MLA-R	823	10	3	15.00	0.78	0.78	1275.00	0.00	0.922
4	1100MLA-R	905	10	3	10.70	0.78	0.78	1405.00	0.00	1.014
5	1200MLA-R	987	10	9	9.30	0.78	0.78	1530.00	0.00	1.106
6	1380MLA-R	1135	10	8	10.60	0.80	0.80	1715.00	0.00	1.272
7	1500MLA-R	1234	10	10	7.90	0.80	0.80	1865.00	0.00	1.383
8	1600MLA-R	1316	10	10	8.70	0.80	0.80	1990.00	0.00	1.475
9	1700MLA-R	1399	10	10	7.50	0.80	0.80	2110.00	0.00	1.568
10	1800MLA-R	1481	10	10	6.70	0.80	0.80	2235.00	0.00	1.660

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
161	Rabbit	N.Zealand	.	Leong-64		Bilateral	.	.	106	Continuous	1 MeV-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	890MLA-R	732	.	.	10.00	7.00	7.00	127.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
162	Rabbit	NL1	2.88	Grahn-56		Whole-body	.	.	126	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	807MLA-R	663	50	.	.	10.00	10.00	.	0.00	.
2	1330MLA-R	1090	45	.	.	10.00	10.00	.	0.00	.
3	2550MLA-R	2100	31	.	.	10.00	10.00	.	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
163	Rat	WR-CF	0.18	Dacquisto-60		Whole-body	409(23.2)	3.0(0.55)	90	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	350MLA-R	281	15	2	16.00	30.00	30.00	12.00	0.00	0.687
2	440MLA-R	353	15	6	18.00	30.00	30.00	15.00	0.00	0.863
3	600MLA-R	482	15	10	14.00	30.00	30.00	20.00	0.00	1.178
4	675MLA-R	542	15	9	11.00	30.00	30.00	23.00	0.00	1.325
5	770MLA-R	618	15	15	7.00	30.00	30.00	26.00	0.00	1.510
6	1000MLA-R	803	15	15	6.00	30.00	30.00	33.00	0.00	1.962

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
164	Rat	Sprague	0.20	Hagen-56	SR68-6	Bilateral	482(4.4)	6.8(0.51)	711	Continuous	200 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	OMLA-R	0	101	1	.	12.00	12.00	0.00	0.00	0.000
2	500MLA-R	400	80	6	11.30	12.00	12.00	42.00	0.00	0.830
3	550MLA-R	440	80	23	12.40	12.00	12.00	46.00	0.00	0.913
4	600MLA-R	480	80	41	9.20	12.00	12.00	50.00	0.00	0.996
5	625MLA-R	500	80	49	9.50	12.00	12.00	52.00	0.00	1.038
6	700MLA-R	560	211	178	7.80	12.00	12.00	58.00	0.00	1.162
7	800MLA-R	640	49	47	8.40	12.00	12.00	67.00	0.00	1.328
8	900MLA-R	720	30	30	7.30	12.00	12.00	75.00	0.00	1.494

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
165	Rat	Wistar	.	Hursh-56		Rotated	482(21.2)	3.3(0.63)	190	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	0MLA-R	0	51	3	.	0.00	0.00	0.00	0.00	0.000
2	350MLA-R	284	34	3	.	18.00	18.00	19.00	0.00	0.589
3	450MLA-R	365	35	3	.	18.00	18.00	25.00	0.00	0.757
4	550MLA-R	446	35	14	.	18.00	18.00	31.00	0.00	0.925
5	650MLA-R	527	35	23	.	18.00	18.00	36.00	0.00	1.093

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
166	Rat	Sionakeralbino	0.12	Clark-49		Whole-body	489(5.9)	7.5(1.21)	501	Continuous	200 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	500MLA-R	400	17	1	.	30.40	30.40	16.40	0.00	0.819
2	610MLA-R	488	8	0	.	30.40	30.40	20.10	0.00	0.999
3	625MLA-R	500	94	58	45.00	30.40	30.40	20.60	0.00	1.023
4	640MLA-R	512	83	34	30.00	30.40	30.40	21.00	0.00	1.048
5	655MLA-R	524	235	186	15.00	30.40	30.40	21.50	0.00	1.072
6	670MLA-R	536	8	4	16.00	30.40	30.40	22.00	0.00	1.097
7	715MLA-R	572	8	8	8.00	30.40	30.40	23.50	0.00	1.171
8	750MLA-R	600	8	8	8.00	30.40	30.40	24.70	0.00	1.228
9	800MLA-R	640	32	29	8.00	30.40	30.40	26.30	0.00	1.310
10	1000MLA-R	800	8	8	6.00	30.40	30.40	32.90	0.00	1.637

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
167	Rat	WR-CF	0.18	Dacquisto-60		Whole-body	535(28.4)	2.9(0.57)	90	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	350MLA-R	281	15	2	17.00	3.00	3.00	117.00	0.00	0.525
2	440MLA-R	353	15	0	.	3.00	3.00	147.00	0.00	0.660
3	600MLA-R	482	15	7	17.00	3.00	3.00	200.00	0.00	0.901
4	675MLA-R	542	15	4	15.00	3.00	3.00	225.00	0.00	1.013
5	770MLA-R	618	15	10	15.00	3.00	3.00	257.00	0.00	1.155
6	1000MLA-R	803	15	15	9.00	3.00	3.00	333.00	0.00	1.501

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
168	Rat	Wistar	.	Hursh-56		Rotated	570(12.4)	6.0(1.82)	152	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	0MLA-R	0	53	4	.	0.00	0.00	0.00	0.00	0.000
2	650MLA-R	527	50	16	.	18.00	18.00	36.00	0.00	0.925
3	750MLA-R	608	49	32	.	18.00	18.00	42.00	0.00	1.068

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
169	Rat	Sprague	0.51	Jones-69		Whole-body	588(12.4)	8.9(2.25)	86	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	700MLA-R	569	20	8	10.10	29.00	29.00	24.00	0.00	0.967
2	750MLA-R	609	23	15	10.10	29.00	29.00	26.00	0.00	1.035
3	800MLA-R	650	23	17	10.10	29.00	29.00	28.00	0.00	1.105
4	900MLA-R	731	20	20	10.10	29.00	29.00	31.00	0.00	1.243

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
170	Rat	Sprague	0.52	Jones-69		Whole-body	628(13.9)	8.9(2.06)	95	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	750MLA-R	609	19	9	.	29.00	29.00	26.00	0.00	0.970
2	800MLA-R	650	19	11	.	29.00	29.00	28.00	0.00	1.035
3	850MLA-R	691	19	13	.	29.00	29.00	29.00	0.00	1.100
4	900MLA-R	731	19	18	.	29.00	29.00	31.00	0.00	1.164
5	950MLA-R	772	19	19	.	29.00	29.00	33.00	0.00	1.229

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
171	Rat	Sprague	0.54	Jones-69		Whole-body	646(11.1)	9.8(2.43)	72	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	700MLA-R	569	18	1	11.90	29.00	29.00	24.00	0.00	0.880
2	750MLA-R	610	18	7	11.90	29.00	29.00	26.00	0.00	0.944
3	800MLA-R	650	18	9	11.90	29.00	29.00	28.00	0.00	1.006
4	850MLA-R	691	18	13	11.90	29.00	29.00	29.00	0.00	1.069

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
172	Rat	Sprague	0.38	Jones-69		Whole-body	694(6.7)	17.7(2.87)	100	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	750MLA-R	613	20	1	.	29.00	29.00	26.00	0.00	0.883
2	800MLA-R	653	20	2	.	29.00	29.00	28.00	0.00	0.941
3	850MLA-R	694	20	9	.	29.00	29.00	29.00	0.00	1.000
4	900MLA-R	735	20	17	.	29.00	29.00	31.00	0.00	1.059
5	950MLA-R	776	20	20	.	29.00	29.00	33.00	0.00	1.118

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
173	Rat	Sprague	0.48	Jones-69		Whole-body	730(12.4)	11.1(2.16)	102	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	700MLA-R	569	14	0	12.00	29.00	29.00	24.00	0.00	0.779
2	750MLA-R	609	29	1	12.00	29.00	29.00	26.00	0.00	0.834
3	800MLA-R	650	15	2	12.00	29.00	29.00	28.00	0.00	0.890
4	850MLA-R	690	14	3	12.00	29.00	29.00	29.00	0.00	0.945
5	900MLA-R	731	15	5	12.00	29.00	29.00	31.00	0.00	1.001
6	950MLA-R	772	15	13	12.00	29.00	29.00	33.00	0.00	1.057

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
174	Rat	Sprague	0.30	Strike	SR68-6	Whole-body	740(5.6)	7.9(0.50)	911	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		0	48	0	.	23.00	23.00	0.00	0.00	0.000
2		410	48	0	.	23.00	23.00	21.00	0.00	0.554
3		462	48	0	.	23.00	23.00	23.00	0.00	0.624
4		513	48	2	25.00	23.00	23.00	26.00	0.00	0.693
5		513	48	0	.	23.00	23.00	26.00	0.00	0.693
6		564	48	1	22.00	23.00	23.00	28.00	0.00	0.762
7		616	48	3	22.00	23.00	23.00	30.00	0.00	0.832
8		616	48	4	13.00	23.00	23.00	30.00	0.00	0.832
9		616	48	2	14.00	23.00	23.00	30.00	0.00	0.832
10		667	48	5	20.00	23.00	23.00	33.00	0.00	0.901
11		718	48	19	13.00	23.00	23.00	35.00	0.00	0.970
12		718	48	20	12.00	23.00	23.00	35.00	0.00	0.970
13		718	48	20	12.00	23.00	23.00	35.00	0.00	0.970
14		770	48	30	16.00	23.00	23.00	38.00	0.00	1.040
15		821	48	34	12.00	23.00	23.00	41.00	0.00	1.109
16		821	48	36	8.90	23.00	23.00	41.00	0.00	1.109
17		821	48	43	9.30	23.00	23.00	41.00	0.00	1.109
18		872	48	45	10.00	23.00	23.00	44.00	0.00	1.178
19		956	47	47	6.80	23.00	23.00	48.00	0.00	1.291

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
175	Rat	Sprague	.	Baum	Pers.Com.		806(7.4)	9.2(0.89)	611	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1		500	70	0	.	.	.	.	0.00	0.620
2		550	70	0	.	.	.	.	0.00	0.682
3		600	55	0	.	.	.	.	0.00	0.744
4		650	85	2	.	.	.	.	0.00	0.806
5		700	85	10	.	.	.	.	0.00	0.868
6		750	85	26	.	.	.	.	0.00	0.930
7		800	85	27	.	.	.	.	0.00	0.992
8		850	76	59	.	.	.	.	0.00	1.055

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
176	Rat	FAC(I)F1	0.21	Kohn-57		Whole-body	.	.	234	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	570MLA-R	460	.	.	10.00	30.00	30.00	19.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
177	Rat	Sprague	0.20	Logie-60		Rotated	.	.	100	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	908MLA-R	735	.	.	.	474.00	474.00	1.90	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
178	Rat	Sprague	0.20	Logie-60		Rotated	.	.	100	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	1044MLA-R	846	.	.	.	55.00	55.00	19.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
179	Rat	Sprague	0.20	Logie-60		Rotated	.	.	100	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	1277MLA-R	1030	.	.	.	3.41	3.41	374.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
180	Rat	Sprague	0.20	Logie-60		Rotated	.	.	100	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	1885MLA-R	1530	.	.	.	0.48	0.48	3940.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
181	Rat	Sprague	0.20	Logie-60		Rotated	.	.	100	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	2110MLA-R	1710	.	.	.	0.18	0.18	12000.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
182	Rat	Wistar	0.18	Carsten-64		Whole-body	.	.	16	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	750MLA-R	608	.	.	11.00	19.00	19.00	39.50	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
183	Rat	Sprague-Dawley	.	Swift-54		Whole-body	.	.	40	Continuous	200 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	650MLA-R	520	10	9	.	12.50	13.00	52.00	0.00	.
2	650MLA-R	520	10	10	.	12.50	13.00	52.00	0.00	.
3	750MLA-R	600	10	10	.	12.50	13.00	60.00	0.00	.
4	750MLA-R	600	10	10	.	12.50	13.00	60.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
184	Sheep	Col.-Ram	43.00	Hanks-66	Page-68	Quadrilateral	145(6.2)	3.8(0.60)	112	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	165MLA-RAD	101	16	0	.	10.10	10.10	16.00	0.00	0.697
2	200MLA-RAD	122	16	5	36.00	10.10	10.10	20.00	0.00	0.842
3	250MLA-RAD	153	16	10	20.00	10.10	10.10	25.00	0.00	1.056
4	300MLA-RAD	184	16	14	22.00	10.10	10.10	30.00	0.00	1.270
5	350MLA-RAD	214	16	15	20.00	10.10	10.10	35.00	0.00	1.477
6	400MLA-RAD	245	16	16	19.00	10.10	10.10	40.00	0.00	1.691
7	450MLA-RAD	275	16	15	17.00	10.10	10.10	45.00	0.00	1.898

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
185	Sheep	Col.-Ram	41.00	Hanks-66	Page-68	Quadrilateral	147(5.4)	5.9(0.98)	86	Continuous	1 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	177MLA-R	103	36	0	.	7.50	7.50	24.00	0.00	0.700
2	198MLA-R	115	15	3	31.00	7.50	7.50	26.00	0.00	0.782
3	243MLA-R	141	15	4	18.00	7.50	7.50	32.00	0.00	0.959
4	325MLA-R	188	20	19	20.00	7.50	7.50	43.00	0.00	1.278

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
186	Sheep	Welsh-MO	22.00	Edmondson-71		Bilateral	180(20.4)	1.7(0.74)	60	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	224MLA-R	136	4	1	26.00	37.50	37.50	6.00	0.00	0.755
2	247MLA-R	150	6	2	21.50	37.50	37.50	6.60	0.00	0.833
3	290MLA-R	176	15	8	25.00	37.50	37.50	7.70	0.00	0.977
4	349MLA-R	212	14	9	24.20	37.50	37.50	9.30	0.00	1.177
5	412MLA-R	250	11	7	19.00	37.50	37.50	11.00	0.00	1.388
6	475MLA-R	288	10	8	18.50	37.50	37.50	12.70	0.00	1.599

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
187	Sheep	Col.-Ram	34.50	Taylor-69	Page-68	Bilateral	206(6.6)	4.9(0.71)	118	Continuous	1 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	177MLA-R	144	48	2	27.00	7.60	7.60	23.00	0.00	0.700
2	198MLA-R	161	15	3	31.00	7.60	7.60	26.00	0.00	0.782
3	243MLA-R	198	15	4	18.00	7.60	7.60	32.00	0.00	0.962
4	250MLA-R	203	10	4	24.00	7.60	7.60	33.00	0.00	0.986
5	300MLA-R	244	10	8	24.00	7.60	7.60	39.00	0.00	1.186
6	325MLA-R	265	20	19	19.00	7.60	7.60	43.00	0.00	1.288

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
188	Sheep	Col.-Ram	43.00	Page-68	Page-68	Bilateral	.	.	96	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	237MLA-R	144	.	.	20.90	11.00	11.00	22.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
189	Sheep	Col.-Ram	43.00	Page-68	Page-68	Bilateral	.	.	72	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	318MLA-R	194	.	.	22.90	4.35	4.35	73.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
190	Sheep	Col.-Ram	43.00	Page-68	Page-68	Bilateral	.	.	60	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	338MLA-R	206	.	.	17.70	0.50	0.50	675.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
191	Sheep	Col.-Ram	43.00	Page-68	Page-68	Free-moving	.	.	80	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	495MLA-R	302	.	.	22.40	0.06	0.06	8250.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
192	Sheep	Col.-Ram	43.00	Page-68	Page-68	Free-moving	.	.	48	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	637MLA-R	388	.	.	18.10	0.03	0.03	19110.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
193	Sheep	Col.-Ram	.	Leong-64		Rotated	.	.	67	Continuous	1 MeV-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	360MLA-R	216	.	.	21.00	7.00	7.00	51.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
194	Sheep		.	Taylor-68		Bilateral	.	.	.	Continuous	1 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		.	.	.	.	7.50	7.50	.	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
195	Sheep		.	Taylor-68		Bilateral	.	.	.	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		.	.	.	.	0.06	0.06	.	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
196	Sheep		.	Taylor-68		Whole-body	.	.	.	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1		.	.	.	.	0.06	0.06	.	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
197	Sheep		.	Mobley-66	Page-68	Bilateral	.	.	.	Continuous	250 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	389MLA-R	245	.	.	22.00	7.50	7.50	51.90	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
198	Swine	Mix breed	82.00	Tullis-49	NRDL69-15	Bilateral	171(15.2)	3.4(1.06)	32	Continuous	1 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	200MLA-R	123	8	1	17.00	30.00	30.00	7.00	0.00	0.718
2	300MLA-R	185	8	5	20.00	30.00	30.00	10.00	0.00	1.080
3	400MLA-R	247	8	7	15.70	30.00	30.00	13.00	0.00	1.442
4	600MLA-R	370	8	8	16.30	30.00	30.00	20.00	0.00	2.161

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
199	Swine	Landrace	61.70	Tullis-52		Bilateral	190(15.2)	2.8(0.71)	62	Continuous	2 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	200MLA-RAD	119	4	0	.	15.00	15.00	13.00	0.00	0.628
2	250MLA-RAD	148	3	0	.	15.00	15.00	17.00	0.00	0.781
3	300MLA-RAD	178	8	5	16.20	15.00	15.00	20.00	0.00	0.939
4	350MLA-RAD	207	8	7	16.60	15.00	15.00	23.00	0.00	1.092
5	400MLA-RAD	237	6	3	18.70	15.00	15.00	27.00	0.00	1.250
6	450MLA-RAD	267	8	5	11.60	15.00	15.00	30.00	0.00	1.408
7	500MLA-RAD	296	9	8	13.50	15.00	15.00	33.00	0.00	1.561
8	550MLA-RAD	326	8	8	13.80	15.00	15.00	37.00	0.00	1.719
9	600MLA-RAD	356	4	4	11.80	15.00	15.00	40.00	0.00	1.878
10	800MLA-RAD	474	4	4	9.50	15.00	15.00	53.00	0.00	2.500

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
200	Swine	Duroc	107.00	Nachtwey-67		Bilateral	275(7.7)	5.0(0.88)	113	Continuous	1 MVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	300MLA-R	203	8	0	.	9.50	9.50	32.00	0.00	0.739
2	350MLA-R	237	7	3	15.00	9.50	9.50	37.00	0.00	0.863
3	350MLA-R	237	15	3	20.70	9.50	9.50	37.00	0.00	0.863
4	399MLA-R	270	13	4	17.50	9.50	9.50	42.00	0.00	0.984
5	400MLA-R	271	8	6	18.50	9.50	9.50	42.00	0.00	0.987
6	425MLA-R	288	15	8	18.10	9.50	9.50	45.00	0.00	1.049
7	450MLA-R	305	8	7	15.40	9.50	9.50	47.00	0.00	1.111
8	500MLA-R	338	8	6	15.80	9.50	9.50	53.00	0.00	1.231
9	500MLA-R	338	15	13	15.80	9.50	9.50	53.00	0.00	1.231
10	550MLA-R	372	8	7	15.20	9.50	9.50	58.00	0.00	1.355
11	600MLA-R	406	8	8	11.00	9.50	9.50	63.00	0.00	1.479

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
201	Swine	Mix breed	75.40	Rust-54	Page-68	Multisource	370(21.9)	4.2(1.06)	49	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	$Dose/LD_{50}$
1	450MLA-R	269	10	1	.	0.83	0.83	540.00	0.00	0.728
2	670MLA-R	401	10	6	11.00	0.83	0.83	800.00	0.00	1.085
3	725MLA-R	434	10	8	18.00	0.83	0.83	866.00	0.00	1.174
4	825MLA-R	494	10	8	13.80	0.83	0.83	986.00	0.00	1.337
5	890MLA-R	533	9	9	12.90	0.83	0.83	1063.00	0.00	1.442

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
202	Swine	Duroc	33.10	Chambers-64	Page-68	4PI	.	.	225	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	335MLA-R	218	.	.	.	21.30	21.30	16.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
203	Swine	Duroc	67.60	Chambers-64	Page-68	4PI	.	.	225	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	393MLA-R	228	.	.	.	21.30	21.30	19.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
204	Swine		.	Bond-51	Page-68	Bilateral	.	.	.	Continuous	1000 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	425MLA-R	255	.	.	.	27.00	27.00	15.70	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
205	Swine		.	Tullis-52	Page-68	Bilateral	.	.	.	Continuous	1000 kVp-X

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	510MLA-R	250	.	.	.	15.00	15.00	34.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
206	Swine		.	Page-67	Page-68	Bilateral	.	.	.	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	375MLA-R	260	.	.	.	11.50	11.50	32.60	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
207	Swine		.	Brown-68	Page-68	Bilateral	.	.	.	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	425MLA-R	270	.	.	.	10.00	10.00	42.50	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
208	Swine		.	Brown-68	Page-68	Bilateral	.	.	.	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	375MLA-R	240	.	.	.	50.00	50.00	7.50	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
209	Swine	Duroc	114.00	Brown-68		Multisource	.	.	.	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	675MLA-R	425	.	.	.	1.00	1.00	675.00	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
210	Swine	Duroc	114.00	Brown-68		Multisource	.	.	.	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	425MLA-R	270	.	.	.	10.00	10.00	42.50	0.00	.

Exper. No.	Species	Strain	Weight (kg)	Investigator	Reviewer	Geometry	LD_{50} (S.E.) (rads)	Slope (S.E.) (probits/log rad)	Animals	Exposure	Source
211	Swine	Duroc	114.00	Brown-68		Multisource	.	.	.	Continuous	Co-60

Group	Treatment	Marrow Dose (rads)	Animals	Deaths	Mean Survival (days)	Mean Exposure Rate (R/min)	Max. Exposure Rate (R/min)	Exposure Time (min)	Downtime (min)	Dose/LD_{50}
1	375MLA-R	240	.	.	.	50.00	50.00	7.50	0.00	.

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