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# **References**

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1. Albertini, R. J., "Studies With T-Lymphocytes: An Approach to Human Mutagenicity Monitoring," *Indicators of Genotoxic Exposure*, Banbury Report 13, B.A. Bridges, B.E. Butterworth, I.B. Weinstein (eds.) (Cold Spring Harbor, NY: Cold Spring Harbor Laboratory, 1982), pp. 393-410.
2. Albertini, R. J., "Somatic Gene Mutations In Vivo as Indicated by the 6-Thioguanine Resistant T-Lymphocytes in Human Blood," *Mutat. Res.* 150:411-422, 1985.
3. Albertini, R. J., Castle, K. L., and Borcherding, W. R., "T-Cell Cloning To Detect the Mutant 6-Thioguanine-Resistant Lymphocytes Present in Human Peripheral Blood," *Proc.Nat.Acad.Sci. (USA)* 79:6617-6621, 1982.
4. Albertini, R. J., O'Neill, J. P., Nicklas, J. A., et al., "Alterations of the *hprt* Gene in Human 6-Thioguanine Resistant T-Lymphocytes Arising In Vivo," *Nature* 316:369-371, 1985.
5. Altland, K., Kaempfer, M., Forssbohm, M., et al., "Monitoring for Changing Mutation Rates Using Blood Samples Submitted for PKU Screening," *Human Genetics, Part A: The Unfolding Genome* (New York: Alan R. Liss, Inc., 1982), pp. 277-287.
6. Awa, A. A., "Cytogenetic Study," *J. Radiat. Res. (Suppl.)* 16:75-81, 1975.
7. Awa, A. A., Sofuni, T., Honda, T., et al., "Preliminary Reanalysis of Radiation-Induced Chromosome Aberrations in Relation to Past and Newly Revised Dose Estimates for Hiroshima and Nagasaki A-Bomb Survivors," Radiation Effects Research Foundation Technical Report Series 8-83, 1983.
8. Awa, A. A., Honda, S., and Neriishi, et al., "An Interim Report of the Cytogenetic Study of the Offspring of Atomic Bomb Survivors in Hiroshima and Nagasaki," *Human Genetics, Part A: The Unfolding Genome* (New York: Alan R. Liss, Inc., 1982).
9. Bigbee, W. L., Langlois, R. G., Vanderlaan, M., et al., "Binding Specificities of Eight Monoclonal Antibodies to Human Glycophorin A—Studies With M<sup>c</sup>M and M<sup>k</sup>En(UK) Variant Human Erythrocytes and M- and MNv-type Chimpanzee Erythrocytes," *J.Immunol.* 133:3149-3155, 1984.
10. Bigbee, W. L., Vanderlaan, M., Fong, S. S. N., et al., "Monoclonal Antibodies Specific for the M- and N-Forms of Human Glycophorin A," *Molec. Immune* 20:1353-1362, 1983.
11. Boice, J. D., Jr., Day, N. E., and Andersen, A., et al., "Second Cancers Following Radiation Treatment for Cervical Cancer," *J. Nat. Cancer Inst.* 74(5):955-975, 1985.
12. Boué, A., Boué, J., and Gropp, A., "Cytogenetics of Pregnancy Wastage," *Adv. Hum. Genet.* 14:1-57, 1985.
13. Branscomb, E., "Detecting Genetic Injury in Body Cells: The Red Blood Cell as Sentinel," typescript, contract report prepared for the Office of Technology Assessment, U.S. Congress, Washington, DC, 1985.
14. Bridges, B. A., "An Approach to the Assessment of the Risk to Man From DNA Damaging Agents," *Arch. Toxicol. Suppl.* 3:271-281, 1980.
15. Bridges, B. A., "Status and Prospects, in Indicators of Genotoxic Exposure," *Indicators of Genotoxic Exposure*, Banbury Report 13, B.A. Bridges, B.E. Butterworth, and I.B. Weinstein (eds.) (Cold Spring Harbor, NY: Cold Spring Harbor Laboratory, 1982), pp. 555-558.
16. Cariello, N., "Methods To Characterize Mutations in Human T-Lymphocytes," typescript, contract report prepared for the Office of Technology Assessment, U.S. Congress, Washington, DC, 1985.
17. Cavalli-Sforza, L. L., and Bodmer, W. F., *The Genetics of Human Populations* (San Francisco: W.H. Freeman & Co., 1971).
18. Chandley, A. D., "The Origin of Aneuploidy," *Human Genetics, Part B: Medical Aspects* (New York: Alan R. Liss, Inc., 1982), pp. 337-347.
19. Charles, D., and Pretsch, W., "A Mutation Affecting the Lactate Dehydrogenase Locus LDH-1 in the Mouse. I: Genetical and Electrophoretic Characterization," *Biochem.Genet.* 19:301-307, 1981.
20. Charles, D., and Pretsch, W., "Linear Dose-Response Relationship of Erythrocyte Enzyme Activity Mutations in Offspring of Ethylnitrosourea-Treated Mice," *Mutat.Res.*, in press.
21. Costa, T., Scriver C. R., and Childs, B., "The Effect of Mendelian Disease on Human Health: A Measurement," *Amer. J. Med. Genet.* 21:231-242, 1985.
22. Crow, J. F., and Denniston, C., "Mutation in Human Populations," *Adv. Hum. Genet.* 14:59-123, 1985.

23. Czeizel, A., "Epidemiological Follow-Up Study on Mutagenic Effects in Self-Poisoning Persons," *Environmental Mutagens and Carcinogens*, T. Sugimura, S. Kondo, and H. Takebe (eds.) (New York and Tokyo: Alan R. Liss, Inc., and University of Tokyo Press, 1982).
24. Darby, S., Nakashima, E., and Kate, H., "A Parallel Analysis of Cancer Mortality Among Atomic Bomb Survivors and Patients With Ankylosing Spondylitis Given X-Ray Therapy," *J. Nat. Cancer Inst.* 75(1):1-19, 1985.
25. Delehanty, J., White, R. L., and Mendelsohn, M. L., "Approaches To Determining Mutation Rates in Human DNA," *Mutat. Res.* 167:215-232, 1986.
26. Dempsey, J. L., Seshadri, R. S., and Morley, A. A., "Increased Mutation Frequency Following Treatment With Cancer Chemotherapy," *Cancer Res.* 45:2873-2877, 1985.
27. Dobson, R. L., and Felton, J. S., "Female Germ Cell Loss From Radiation and Chemical Exposures," *Am. J. Industrial Med.* 4:175-190, 1983.
28. Dobson, R. L., Kwan, T.C. and Straume, T., "Tritium Effects on Germ Cells and Fertility," *European Seminar on the Risks From Tritium Exposure*, G. Gerber and M. Myttenaere (eds.) (Brussels: Commission of the European Communities, 1984).
29. Dreyer, N. A., Kohn, H. I., Clapp, R., et al., *The Feasibility of Epidemiologic Investigations of the Health Effects of Low-Level Ionizing Radiation*, NUREG/CR-1728 (Washington, DC: U.S. Government Printing Office, 1980).
30. Eber, S. W., Dunnwald, M., and Heinemann, G., et al., "Prevalence of Partial Deficiency of Red Cell Triosephosphate Isomerase in Germany-A Study of 3,000 People," *Hum. Genet.* 67:336-339, 1984.
31. Ehling, U. H., "Methods To Estimate the Genetic Risk," *Mutations in Man*, Gunter Obe (cd.) (Berlin: Springer Verlag, 1984).
32. Emery, A. E. H., and Rimoin, D., "Nature and Incidence of Genetic Disease," *Principles and Practice of Medical Genetics*, A.E.H. Emery and D. Rimoin (eds.) (Edinburgh: Churchill Livingstone, 1983).
33. Emery, A. E. H., *An Introduction to Recombinant DNA* (Chichester: John Wiley, 1984).
34. Fischer, S. G., and Lerman L. S., "DNA Fragments Differing by Single Base-Pair Substitutions are Separated in Denaturing Gradient Gels: Correspondence With Melting Theory," *Proc. Nat. Acad. Sci. (USA)*: 80: 1579-83, 1983.
35. Generoso, W. M., Cain, K. T., Cacheiro, N. L. A., et al., "Response of Mouse Spermatogonial Stem Cells to X-Ray Induction of Heritable Reciprocal Translocations," *Mutat. Res.* 126:177-187, 1984.
36. Gunther, M., and Penrose, L. S., "The Genetics of Epiloia," *J. Genet.* 31:413-430, 1935.
37. Harris, H., *The Principles of Human Biochemical Genetics*, 4th ed. (Amsterdam: North-Holland, 1980).
38. Harris, H., Hopkinson, D. A., and Robson, E. B., "The Incidence of Rare Alleles Determining Electrophoretic Variants: Data on 43 Enzyme Loci in Man," *Ann. Hum. Genet.* 37:237-253, 1974.
39. Hassold, T. J., and Jacobs, P. A., "Trisomy in Man," *Ann. Rev. Genet.* 18:69-97, 1984.
40. Hayes, A., Costa, T., Scriven, C. R., et al., "The Effect of Mendelian Disease on Human Health, II: Response to Treatment," *Amer. J. Med. Genet.* 21:243-255, 1985.
41. Hitotsumachi, S., Carpenter, D. A., and Russell, W. L., "Dose-Repetition Increases the Mutagenic Effectiveness of N-ethyl-N-nitrosourea in Mouse Spermatogonia," *Proc. Nat. Acad. Sci. (USA)* 82:6619-6621, 1985.7
42. Hook, E. B., "Prevalence of Chromosome Abnormalities During Human Gestation and Implications for Studies of Environmental Mutagens," *Lancet* 2: 169-172, 1981.
43. Hook, E. B., "Contribution of Chromosome Abnormalities to Human Morbidity and Mortality and Some Comments Upon Surveillance of Chromosome Mutation Rates," *Prog. Mut. Res.* 3:9-38, 1982.
44. Hook, E. B., and Cross, P. K., "Surveillance of Human Populations for Germinal Cytogenetic Mutations," *Environmental Mutagens and Carcinogens*, T. Sugimura, S. Kondo, and H. Takebe (eds.) (New York and Tokyo: Alan R. Liss, Inc., and University of Tokyo Press, 1982).
45. Hook, E. B., Schreinemachers, D. M., and Willey, A. M., et al., "Rates of Mutant Structural Chromosome Rearrangements in Human Fetuses: Data From Prenatal Cytogenetic Studies and Associations With Maternal Age and Parental Mutagen Exposure," *Amer. J. Hum. Genet.* 35:96-109, 1983.
46. International Commission for Protection Against Environmental Mutagens and Carcinogens, Committee 4, Final Report, "Estimation of Genetic Risks and Increased Incidence of Genetic Disease Due to Environmental Mutagens," *Mutat. Res.* 115:225-291, 1983.
47. International Commission on Radiological Pro-

- tection, *Recommendations of the International Commission on Radiological Protection*, ICRP Publication 26 (Oxford: Pergamon Press, 1977).
48. Jablon, S., National Research Council, personal communication, April 1986.
  49. Jackson, E. R., Fowle, J. R., III, and Voytek, P., "Some Research Needs To Support Mutagenicity Risk Assessments From Whole Mammal Studies," *Utilization of Mammalian Specific Locus Studies in Hazard Evaluation and Estimation of Genetic Risk*, F.J.deSerres and W. Sheridan (eds.) (New York: Plenum Press, 1983), pp. 315-322.
  50. Jensen, R. H., Bigbee, W., and Branscomb, E. W., "Somatic Mutations Detected by Immunofluorescence and Flow Cytometry," *Biological Dosimetry Cytometric Approaches to Mammalian Systems*, W.G. Eisert and M.L. Mendelsohn (eds.) (Berlin: Springer-Verlag, 1984), pp. 161-170.
  51. Johnson, F. M., and Lewis, S. E., "Electrophoretically Detected Germinal Mutations Induced in the Mouse by Ethylnitrosourea," *Proc. Nat. Acad. Sci. (USA)* 78:3138-3141, 1981.
  52. Johnson, F. M., and Lewis, S. E., "The Detection of ENU-Induced Mutants in Mice by Electrophoresis and the Problem of Evaluating the Mutation Rate Increase," *Utilization of Mammalian Specific Locus Studies in Hazard Evaluation and Estimation of Genetic Risk*, F.J.deSerres and W. Sheridan (eds.) (New York: Plenum Press, 1983), pp. 95-123.
  53. Johnson, F. M., Roberts, G. T., Sharma, R. K., et al., "The Detection of Mutants in Mice by Electrophoresis: Results of a Model Induction Experiment With Procarbazine," *Genetics* 97:113-124, 1981.
  54. Jones, I. M., Burkhardt-Schultz, K., and Carrano, A. V., "A Study of the Frequency of Sister Chromatid Exchange and of Thioguanine Resistant Cells in Mouse Spleen Lymphocytes After *in vivo* Exposure to Ethylnitrosourea," *Mutat. Res.* 143:245-249, 1985.
  55. Kate, H., and Schull W. J., "Cancer Mortality Among Atomic Bomb Survivors," *Life Span Study Report 9, Part 1*, Radiation Effects Research Foundation Technical Report 12-80, 1982.
  56. Kate, H., Schull, W. J., and Neel, J. V., "Survival in Children of Parents Exposed to the Atomic Bomb, a Cohort-Type Study," *Amer. J. Hum. Genet.* 18:339, 1966.
  57. Lerman, L. S., "A Proposal for the Detection of Mutations in a Large-Scale Sampling of the Human Genome Using Two-Dimensional Denaturing Gradient Separations," typescript, contract report prepared for the Office of Technology Assessment, U.S. Congress, Washington, D. C., 1985.
  58. Livingston, G. K., "An Overview of Chromosomal, Micronucleus, Heritable Effects, Dominant Lethal, Heritable Translocation, and Specific Locus Tests," *Reproduction: The New Frontier in Occupational and Environmental Health Research*, J.E. Lockey, et al. (eds.) (New York: Alan R. Liss, Inc., 1984), pp. 417-427.
  59. Lubs, H. A., and Ing, P. S., "Human Cytogenetic Nomenclature," *Principles and Practice of Medical Genetics*, A. E.H. Emery and D. Rimoin (eds.) (Edinburgh: Churchill Livingstone, 1983), p. 162.
  60. Lyon, M. F., "Sensitivity of Various Germ Cell Stages to Environmental Mutagens," *Mutat. Res.* 87:323-345, 1981.
  61. Lyon, M. F., "Problems in Extrapolation of Animal Data to Humans," *Utilization of Mammalian Specific Locus Studies in Hazard Evaluation and Estimation of Genetic Risk*, F.J.deSerres and W. Sheridan (eds.) (New York: Plenum Press, 1983), pp. 55-69.
  62. Lyon, M. F., "Measuring Mutation in Man," *Nature* 318: 315-316, 1985.
  63. Mailing, H. V., and Valcovic, L. R., "Biochemical Specific Locus Mutation System in Mice," *Arch. Toxicol.* 38:45-51, 1977.
  64. Mailing, H. V., "Perspectives in Mutagenesis," *Environ. Mutag.* 3:103-108, 1981.
  65. Matsunaga, E., "Perspectives in Mutation Epidemiology. 1: Incidence and Prevalence of Genetic Disease (Excluding Chromosomal Aberrations) in Human Populations," *Mutat. Res.* 99:95-128, 1982.
  66. Matsunaga, E., "Perspectives in Mutation Epidemiology. 5: Modern Medical Practice Versus Environmental Mutagens: Their Possible Dysgenic Impact," *Mutat. Res.* 11:449-457, 1983.
  67. Maxam, A. M., and Gilbert, W., "A New Method for Sequencing DNA," *Proc. Nat. Acad. Sci. (USA)* 74:560-564, 1977.
  68. Mendelsohn, M., "Prospects for Cellular Mutational Assays in Human Populations," *Assessment of Risk From Low-Level Exposure to Radiation and Chemicals*, A.D. Woodhead, et al. (eds.) (New York: Plenum Press, 1985), pp. 415-427.
  69. Mendelsohn, M., Lawrence Livermore National Laboratory, personal communication, May 6, 1986.
  70. Messing, K., and Bradley, W. E. C., "In Vivo Mutant Frequency Rises Among Breast Cancer Patients," *Cancer Res.* 46:6250-6254, 1986.

- tients After Exposure to High Doses of Gamma Radiation," *Mutat. Res.* 152:107-112, 1985.
71. Miller, J. R., "Perspectives in Mutation Epidemiology. 4: General Principles and Considerations," *Mutat. Res.* 114:425-447, 1983.
72. Miller, O. J., "Chromosomal Basis of Inheritance," *Principles and Practice of Medical Genetics*, A.E. H. Emery and D. Rimoin (eds.) (Edinburgh: Churchill Livingstone, 1983), pp. 49-64.
73. Mohrenweiser, H. W., "Feasibility Study: Detection of Chemically Induced Mutation by Assay of Metabolic Characteristics," *Substitute Chemical Program. II: Toxicological Methods and Genetics Effects Workshop* (Washington, DC: U.S. Environmental Protection Agency, 1975).
74. Mohrenweiser, H. W., "Biochemical Approaches To Monitoring Human Populations for Germinal Mutation Rates. II: Enzyme Deficiency Variants as a Component of the Estimated Genetic Risk," *Utilization of Mammalian Specific Locus Studies in Hazard Evaluation and Estimation of Genetic Risk*, F.J. deSerres and W. Sheridan (eds.) (New York: Plenum Press, 1983) pp. 55-69.
75. Mohrenweiser, H. W., "Enzyme-Deficiency Variants: Frequency and Potential Significance in Human Populations," *Isozymes: Current Topics in Biological and Medical Research* 10:51-68, 1983.
76. Mohrenweiser, H. W., unpublished data, cited in Neel, J. V., Satoh, C., Goriki, K., et al., "The Rate With Which Spontaneous Mutation Alters the Electrophoretic Mobility of Polypeptides," *Proc. Nat. Acad. Sci. (USA)* 83:389-393, 1986.
77. Mohrenweiser, H. W., "One-Dimensional Electrophoresis and Quantitative Enzyme Assays as Technologies To Detect Mutation Rates in Human Beings," typescript, contract report prepared for the Office of Technology Assessment, U.S. Congress, Washington, DC, 1985.
78. Mohrenweiser, H. W., and Neel, J. V., "A 'Disproportion' Between the Frequency of Rare Electromorphs and Enzyme Deficiency Variants in Amerindians," *Amer. J. Hum. Genet.* 36:655-662, 1984.
79. Morley, A. A., Trainor, K. J., Seshadri, R., and Ryan, R. G., "Measurement of In Vivo Mutations in Human Lymphocytes," *Nature* 302:155-156, 1983.
80. Mukai, T., and Cockerham, C. C., "Spontaneous Mutation Rates at Enzyme Loci in *Drosophila melanogaster*," *Proc. Nat. Acad. Sci. (USA)* 74:2514-2517, 1977.
81. Müller, H. J., "Artificial Transmutation of the Gene," *Science* 66:84-87, 1927.
82. Mulvihill, J. J., and Byrne, J., "Offspring of Long-Time Survivors of Childhood Cancer," *Childhood Cancer: Late Effects, Clinics in Oncology* 4(2):333-343, 1985.
83. Mulvihill, J. J., and Czeizel, A., "Perspectives in Mutation Epidemiology. 6: A 1983 View of Sentinel Phenotypes," *Mutat. Res.* 123:345-61, 1983.
84. Myers, R. M., "Determination of the Mutation Rate in Humans by Denaturing Gradient Gel Electrophoresis," typescript, contract report prepared for the Office of Technology Assessment, U.S. Congress, Washington, DC, 1985.
85. Myers, R. M., "Determination of the Mutation Rate in Humans by Ribonuclease Cleavage at Mismatches in RNA: DNA Heteroduplexes," typescript, contract report prepared for the Office of Technology Assessment, U.S. Congress, Washington, DC, 1985.
86. Myers, R. M., Larin, Z., and Maniatis, T., "Detection of Single Base Substitutions by Ribonuclease Cleavage at Mismatches in RNA: DNA Duplexes," *Science* 230:1242-1246, 1985.
87. National Research Council, Committee on the Biological Effects of Ionizing Radiation, *The Effects on Populations of Exposure to Low Levels of Ionizing Radiation* (Washington, DC: National Academy Press, 1980).
88. National Research Council, *Identifying and Estimating the Genetic Impact of Chemical Mutagens* (Washington, DC: National Academy Press, 1983).
89. Neel, J. V., "The Detection of Increased Mutation Rates in Human Populations," *Persp. Biol. Med.* 14:522-537, 1971.
90. Neel, J. V., "Some Trends in the Study of Spontaneous and Induced Mutation in Man," *Hum. Genet.*, Proc. 5th Intl. Cong., Mexico (Amsterdam: Excerpta Medica, 1977), pp. 19-32.
91. Neel, J. V., "Frequency of Spontaneous and Induced 'Point' Mutations in Higher Eukaryotes," *J. Hered.* 74:2-15, 1983.
92. Neel, J. V., University of Michigan Medical School, personal communication, Aug. 21, 1985.
93. Neel, J. V., Mohrenweiser, H., and Hanash S., et al., "Biochemical Approaches To Monitoring Human Populations for Germinal Mutation Rates, I: Electrophoresis," *Utilization of Mammalian Specific Locus Studies in Hazard Evaluation and Estimation of Genetic Risk*, F.J. deSerres and W. Sheridan (eds.) (New York: Plenum Press, 1983), pp. 71-93,
94. Neel, J. V., Mohrenweiser, H. W., and Meisler, M. H., "Rate of Spontaneous Mutation at Human Loci Encoding Protein Structure," *Proc. Nat. Acad. Sci. (USA)* 77(10)6037-6041, 1980.

95. Neel, J. V., Rosenblum, B. B., Sing, C. F., et al., "Adapting Two-Dimensional Gel Electrophoresis to the Study of Human Germ-Line Mutation Rates," ch. 9, *Two-Dimensional Gel Electrophoresis of Proteins*, J.E. Celis and R. Bravo (eds.) (London: Academic Press, 1984), pp. 259-306.
96. Neel, J. V., Satoh, C., Goriki, K., et al., "The Rate With Which Spontaneous Mutation Alters the Electrophoretic Mobility of Polypeptides," *Proc. Nat. Acad. Sci. (USA)* 83:389-393, 1986.
97. Nicklas, J., "The Use of T-Lymphocytes for Mutagenicity Monitoring," typescript, contract report prepared for the Office of Technology Assessment, U.S. Congress, Washington, DC, 1985.
98. Olson, M. V., "Detection of New Germinal Mutations by Surveying Human DNA for the Gain or Loss of Restriction-Enzyme Cleavage Sites," typescript, contract report prepared for the Office of Technology Assessment, U.S. Congress, Washington, DC, 1985.
99. Otake, M., and Schull, W. J., "In Utero Exposure to A-Bomb Radiation and Mental Retardation: A Reassessment," *Brit. J. Radiol.* 57:409-414, 1984.
100. Phillips, J. A., and Kazazian, H. H., "Principles and Practice of Medical Genetics," *Haemoglobinopathies and Thalassaemias*, A.E.H. Emery and D.L. Rimoin (eds.) (Edinburgh: Churchill Livingstone, 1983), pp. 1019-1043.
101. Porter, I. H., "Control of Hereditary Disorders," *Ann. Rev. Public Health* 3:277-319, 1982.
102. President's Commission for the Study of Ethical Problems in Medicine and Biomedical Research and Behavioral Research, *Screening and Counseling for Genetic Conditions* (Washington, DC: U.S. Government Printing Office, 1983).
103. Racine, R. R., Langley, C. H., and Voelker, R. A., "Enzyme Mutants Induced by Low-Dose Rate Gamma-Irradiation in *Drosophila*: Frequency and Characterization," *Environ. Mutag.* 2:167-177, 1980.
104. Rosenblum, B. B., Neel, J. V., and Hanash, S. M., "Two-Dimensional Electrophoresis of Plasma Polypeptides Reveals 'High' Heterozygosity Indices," *Proc. Nat. Acad. Sci. (USA)* 80:5002-5006, 1983.
105. Rosenblum, B. B., Neel, J. V., Hanash, S. M., et al., "Identification of Genetic Variants in Erythrocyte Lysate by Two-Dimensional Gel Electrophoresis," *Amer. J. Hum. Genet.* 36:601-612, 1984.
106. Russell, L. B., Aaron, C. S., de Serres, F., et al., "Evaluation of Mutagenicity Assays for Purposes of Genetic Risk Assessment," *Mutat. Res.* 134:143-157, 1984.
107. Russell, L. B., Russell, W. L., Popp, R. A., et al., "Radiation Induced Mutations at Mouse Hemoglobin Loci," *Proc. Nat. Acad. Sci. (USA)* 73:2843-2846, 1976.
108. Russell, L. B., and Shelby, M. D., "Tests for Heritable Genetic Damage and for Evidence of Gonadal Exposure in Mammals," *Mutat. Res.*, 154:69-84, 1985.
109. Russell, W. L., "X-Ray-Induced Mutations in Mice," *Cold Spring Harbor Symposium in Quantitative Biology* XVII:327-335, 1951.
110. Russell, W. L., "Mutation Frequencies in Female Mice and the Estimation of Genetic Hazards of Radiation in Women," *Proc. Nat. Acad. Sci. (USA)* 74:3521-3527, 1977.
111. Russell, W. L., "Dose Response, Repair, and No-Effect Dose Levels in Mouse Germ-Cell Mutagenesis," *Problems of Threshold in Chemical Mutagenesis*, Proceedings of a Nissan Symposium on Dose-Response Relationship for Genetic Effects of Environmental Chemicals, Tokyo, May 7-9, 1984, pp. 43-50.
112. Russell, W. L., Hunsicker, P. R., Carpenter, D. A., et al., "Effect of Dose Fractionation on the Ethylnitrosourea Induction Specific-Locus Mutations in Mouse Spermatogonia," *Proc. Nat. Acad. Sci. (USA)* 79:3592-3593, 1982.
113. Russell, W. L., and Kelly, E. M., "Mutation Frequencies in Male Mice and the Estimation of Genetic Hazards of Radiation in Men," *Proc. Nat. Acad. Sci. (USA)* 79:542-544, 1982.
114. Russell, W. L., and Kelly, E. M., "Specific-Locus Mutation Frequencies in Mouse Stem-Cell Spermatogonia at Very Low Radiation Dose Rates," *Proc. Nat. Acad. Sci. (USA)* 79:539-541, 1982.
115. Russell, W. L., Russell, L. B., and Kelly, E. M., "Radiation Dose Rate and Mutation Frequency," *Science* 128:1546-1550, 1958.
116. Sachs, E. S., Van Hemel, J. O., and Galjaard, H., et al., "First Trimester Chromosomal Analysis of Complex Structural Rearrangements With RHA Banding on Chorionic Villi" (letter), *Lancet* 2:1426, 1983.
117. Sanderson, B. J. S., Dempsey, J. L., and Morley, A. A., "Mutations in Human Lymphocytes: Effect of X- and UV-Irradiation," *Mutat. Res.* 140:223-227, 1984.
118. Sanger, F., Nicklen, S., and Coulson, A. R., "DNA Sequencing With Chain-Terminating Inhibitors," *Proc. Nat. Acad. Sci. (USA)* 74:5463-5467, 1977.
119. Sankaranarayanan, K., "The Role of Non-

- Disjunction in Aneuploidy in Man: An Overview," *Mutat. Res.* 61:1-28, 1979.
120. Sankaranarayanan, K., *Genetic Effects of Ionizing Radiation in Multicellular Eukaryotes and the Assessment of Genetic Radiation Hazards in Man* (Amsterdam: Elsevier Biomedical Press, 1982).
121. Satoh, C., Awa, A. A., and Neel, J. V., et al., "Genetic Effects of Atomic Bombs," *Human Genetics, Part A: The Unfolding Genome* (New York: Alan R. Liss, Inc., 1982), pp. 267-276.
122. Satoh, C., Neel, J. V., and Yamashita, A., et al., "The Frequency Among Japanese of Heterozygotes for Deficiency Variants of 11 Enzymes," *Amer. J. Hum. Genet.* 35:656-674, 1983.
123. Schull, W. J., Neel, J. V., and Hashizume, A., "Further Observations on Sex Ratio Among Infants Born to Survivors of the Atomic Bombs," *Amer. J. Hum. Genet.* 18:328, 1966.
124. Schull, W. J., Otake, M., and Neel, J. V., "Genetic Effects of the Atomic Bombs: A Reappraisal," *Science* 213:1220-1227, 1981.
125. Schull, W. J., Otake, M., and Neel, J. V., "Hiroshima and Nagasaki: A Reassessment of the Mutagenic Effect of Exposure to Ionizing Radiation," *Population and Biological Aspects of Human Mutation*, E.B. Hook and I.H. Porter (eds.) (New York: Academic Press, 1981).
126. Smith, C. L., "Purification, Specific Fragmentation, and Separation of Large Molecular Weight DNA Including Intact Chromosomes," typescript, contract report prepared for the Office of Technology Assessment, U.S. Congress, Washington, DC, 1985.
127. Smith, C. L., and Cantor, C. R., "Pulsed-Field Gel Electrophoresis of Large DNA Molecules," *Nature* 319:701-702, 1986.
128. Smith, H. O., "Nucleotide Sequence Specificity of Restriction Endonucleases," *Science* 205:455-462, 1979.
129. Sobels, F. H., "Evaluating the Mutagenic Potential of Chemicals—The Minimal Battery and Extrapolation Problems," *Arch. Toxicol.* 46:21-30, 1980.
130. Sobels, F. H., "The Parallelogram: An Indirect Approach for the Assessment of Genetic Risks From Chemical Mutagens," *Prog. Mut. Res.* 3:323-327, 1982.
131. Stamatoyannopoulos, G., and Nute, P. E., "De Novo Mutations Producing Unstable Hbs or HbsM. II: Direct Estimates of Minimum Nucleotide Mutation Rates in Man," *Hum. Genet.* 60:181-188, 1982.
132. Stamatoyannopoulos, G., and Nute, P., "Detection of Somatic Mutants of Hemoglobin," *Utilization of Mammalian Specific Locus Studies in Hazard Evaluation and Estimation of Genetic Risk*, F.J. de Serres and W. Sheridan (eds.) (New York: Plenum Press, 1983).
133. Stamatoyannopoulos, G., Nute, P., Lindsley, D., et al., "Somatic-Cell Mutation Monitoring System Based on Human Hemoglobin Mutants," *Single-Cell Mutation Monitoring Systems—Methodologies and Applications*, A.A. Ansari and F.J. deSerres (eds.) (New York: Plenum Press, 1984), pp. 1-35.
134. Stamatoyannopoulos, G., Nute, P. E., and Miller, M., "De Novo Mutations Producing Unstable Hbs or Hbs M. I: Establishment of a Depository and Use of Data To Test for an Association of De Novo Mutation With Advanced Parental Age," *Hum. Genet.* 58:396-404, 1981.
135. Stein, Z., Kline, J., and Susser, E., et al., "Maternal Age and Spontaneous Abortion," *Embryonic and Fetal Death*, I.H. Porter and E.B. Hook (eds.) (New York: Academic Press, 1980).
136. Stein, Z., Susser, M., and Warburton, D., et al., "Spontaneous Abortion as a Screening Device," *Amer. J. Epidemiol.* 102:275-290, 1975.
137. Strauss, G. H. S., "Direct Mutagenicity Testing: The Development of a Clonal Assay To Detect and Quantitate Mutant Lymphocytes Arising in Vivo," *Indicators of Genotoxic Exposure*, Banbury Report 13, B.A. Bridges, B.E. Butterworth, and I.B. Weinstein (eds.) (Cold Spring Harbor, NY: Cold Spring Laboratories, 1982), pp. 423-439.
138. Streisinger, G., "Extrapolations From Species to Species and From Various Cell Types in Assessing Risks From Chemical Mutagens," *Mutat. Res.* 114:93-105, 1983.
139. Thilly, W. G., "Potential Use of Gradient Denaturing Gel Electrophoresis in Obtaining Mutational Spectra From Human Cells," *Carcinogenesis: The Role of Chemicals and Radiation in the Etiology of Cancer*, vol. 10, E. Huberman (cd.) (New York: Raven Press, 1985), pp. 511-528.
140. Tobari, Y. N., and Kojima, K., "A Study of Spontaneous Mutation Rates at Ten Loci Detectable by Starch Gel Electrophoresis in *Drosophila melanogaster*," *Genetics* 70:397-403, 1972.
141. Trainor, K. J., Wigmore, D. J., Chrysostomou, A., et al., "Mutation Frequency in Human Lymphocytes Increases With Age," *Mech. Age. Develop.* 27:83-86, 1984.
142. Tucker, M. A., Meadows, A. T., Boice, J. D., Jr., "Cancer Risk Following Treatment of Childhood Cancer," *Radiation Carcinogenesis: Epidemiology and Biological Significance*, J.D. Boice, Jr., and J.F. Fraumeni, Jr. (eds.) (New York: Raven Press, 1984).

143. Turner, D. R., Morley, A. A., Haliandros, M., et al., "In Vivo Somatic Mutations in Human Lymphocytes Are Frequently Due to Major Gene Alterations," *Nature* 315:343-345, 1985.
144. UNSCEAR Report, **Sources and Effects of Ionizing Radiation**, Report of the United Nations Scientific Committee on the Effects of Atomic Radiation, United Nations, New York, 1982.
145. U.S. Congress, Office of Technology Assessment, **Assessment of Technologies for Determining Cancer Risks From the Environment**, OTA-H-138 (Washington, DC: U.S. Government Printing Office, June 1981).
146. U.S. Congress, Office of Technology Assessment, **Impacts of Applied Genetics: Micro-organisms, Plants, and Animals**, OTA-HR-132 (Washington, DC: U.S. Government Printing Office, April 1981).
147. U.S. Congress, Office of Technology Assessment, **Commercial Biotechnology: An International Analysis**, OTA-BA-218 (Washington, DC: U.S. Government Printing Office, January 1984).
148. U.S. Department of Health and Human Services, Public Health Service, Food and Drug Administration, **The Selection of Patients for X-Ray Examination**, HHS Publication (FDA) 80-8104 (Washington, DC: U.S. Government Printing Office, January 1980).
149. U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute, **Multiple Primary Cancers in Connecticut and Denmark**, National Cancer Institute Monograph 68, NIH Publication 85-2714, J.C. Boice, et. al. (eds.) (Bethesda, MD: 1985. )
150. U.S. Department of Health and Human Services, National Institutes of Health, **Genetic Sequence Data Bank** (Cambridge, MA: Bolt, Beranek & Newman, Inc., 1985).
151. U.S. Department of Labor, Occupational Safety and Health Administration, "Occupational Exposure to Ethylene Dibromide: Notice of Proposed Rulemaking," *Federal Register* 48(196): 45956-46003, Oct. 7, 1983.
152. U.S. Department of Labor, Occupational Safety and Health Administration, "Occupational Exposure to Ethylene Oxide: Final Standard," *Federal Register* 49(122):25734-25809, June 22, 1984.
153. U.S. Environmental Protection Agency, "Federal Radiation Protection Guidance for Occupational Exposure," *Federal Register* 46(15), Jan. 23, 1981.
154. U.S. Environmental Protection Agency, "Proposed Guidelines for Mutagenicity Risk Assessment," *Federal Register* 9(227):46314-46321, Nov. 23, 1984.
155. U.S. Environmental Protection Agency, **Workshop Proceedings: Approaches for Improving the Assessment of Human Genetic Risk-Human Biomonitoring** (Washington, DC: 1984).
156. U.S. Environmental Protection Agency, Office of Radiation Programs, **Radionuclides: Background Information Document for Final Rules**, EPA 520/1 -84-022-1 (Washington, DC: October 1984).
157. Van der Ploeg, L. H. T., "Determining Mutation Frequencies in Humans: The Use of Pulsed Field Gel-Electrophoresis for the Analysis of Chromosomes," typescript, contract report prepared for the Office of Technology Assessment, U.S. Congress, Washington, DC, 1985.
158. Van der Ploeg, L. H. T., Smits, M., Ponnudurai, T., et al., "Chromosome-Sized DNA Molecules of *Plasmodium Falciparum*," *Science* 229:658-661, 1985.
159. Van Dyke, D. L., Weiss, L., and Roberson, J. R., et al., "The Frequency and Mutation Rate of Balanced Autosomal Rearrangements in Man Estimated From Prenatal Genetic Studies for Advanced Maternal Age," *Amer. J. Hum. Genet.* 35:301-308, 1983.
160. Vijayalakshmi, and Evans, H. J., "Measurement of Spontaneous and X-Irradiation-Induced 6-Thioguanine-Resistant Human Blood Lymphocytes Using a T-Cell Cloning Technique," *Mutat. Res.* 125:87-94, 1984.
161. Voelker, R. A., Schaffer, H. E., and Mukai, T., "Spontaneous Allozyme Mutations in *Drosophila*: Rate of Occurrence and Nature on the Mutants," *Genetics* 94:961-968, 1980.
162. Vogel, F., "Mutation in Man," **Principles and Practice of Medical Genetics**, A.E.H. Emery and D. Rimoin (eds.) (Edinburgh: Churchill Livingstone, 1983), pp. 26-48.
163. Vogel, F., "Gene or Point Mutations," **Mutations in Man**, G. Obe (cd.) (Berlin: Springer-Verlag, 1984), pp. 101-127.
164. Vogel, F., and Altland, K., "Utilization of Material From PKU-Screening Programs for Mutation Screening," *Prog. Mut. Res.* 3:143-52, 1982.
165. Vogel, F., and Motulsky, A. G., **Human Genetics: Problems and Approaches** (Berlin: Springer-Verlag, 1982).
166. Vogel, F., and Rathenberg, R., "Spontaneous Mutation in Man," *Adv. Hum. Genet.* 5:223-318, 1975.
167. Voytek, P., "Approaches for Regulating Mutagenic Agents," **Reproduction: The New Frontier in Occupational and Environmental Health Research** (New York: Alan R. Liss, Inc., 1984), pp. 429-438.
168. Voytek, P., Reproductive Effects Assessment

- Group, U.S. Environmental Protection Agency, personal communication, Aug. 7, 1985.
169. Warburton, D., Stein, Z., and Kline, J., et al., "Chromosome Abnormalities in Spontaneous Abortion: Data From the New York City Study," *Embryonic and Fetal Death*, I.H. Porter and E.B. Hook (eds.) (New York: Academic Press, 1980), pp. 261-287.
170. Waters, M., Allen, J., Doerr, C., et al., "Application of the Parallelogram Approach To Pre-  
dict Genotoxic Effects in Humans," typescript, 1985.
171. Weatherall, D. J., *The New Genetics and Clinical Practice* (London: Nuffield Provincial Hospitals Trust, 1982).
172. Yang, T. P., Patel, P. I., Chinault, A. C., et al., "Molecular Evidence for New Mutation at the *hprt* Locus in Lesch-Nyhan Patients," *Nature* 310:412-414, 1984.