DNA damage, repair and repair enzymes(22-54)

22 Isolation of Severe Combined Immune Deficiency(Hyper Radio Sensitive) Compliment Gene

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The severe combined immune deficiency(SCID) mouse shows two kineds of phenotypic abnormalities,a high radiosensitivety and an abnormal immunogloblin gene recombination.By making use of the chracterististics of radiosensitivity,we conductted complementation experiments to identify a human chromosome which contains the responsible gene.Radioresistant cells were selected from the hybrid cells of the SCID mouse and human fibroblasts.Based on this approch,the gene complimenting the SCID phnotype was assigned to human chromosome 8p12-q22. Present we report to isolation of SCID gene using by genomic-transefection method.

23 **Analysis of Group A/C AT Gene Loci within Chromosome 11q23 Region**

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The genomic region for group A/C AT genes was analyzed using the radiation hybrids constructed from a mouse cell strain, A9(3552)-2, that carries a human X/11 chromosome translocated at 11q23. Among the 3 hybrids (RH12/1, MH12/1, MH12/3) used, RH12/1 was supposed to contain AT loci because it complemented the enhanced radiosensitivity of AT. Analysis for 11q23 DNA markers on the hybrids revealed that either of the 3 hybrids retained the two DNA markers, 11S351 and 11S144, but lacked 7 other centromeric markers including 11S384 that has shown the closest linkage to AT. This implicates that AT loci may locate more distal to 11S384 or, alternatively, a minute fragment close to 11S384 has cryptically been integrated into RH12/1. In order to further specify the genomic region for AT loci, chromosome 11-derived clones are being isolated from a cosmid library generated from RH12/1.