

3. Translocation B-9a

This B-type translocation, isolated by Dr. H. L. Roman, has been little studied because of the lack of a good marker gene in the long arm of chromosome 9. In the course of building an adapted stock of TB-9a, sporocyte material was collected from which the cytological position of the chromosome breaks could be determined. The break in chromosome 9 is very near the middle of the long arm (L. 47). In the B chromosome the break is near a constriction frequently observed in the long heterochromatic region (measured position L. 69). Thus a large part of the heterochromatic material remains with the B⁹ chromosome and only a smaller distal part is transferred to the 9^B chromosome.

The gene for blue fluorescent-1 had shown linkage with translocation 5-9_{x-14-111} which has the break in chromosome 9 far out on the long arm (L. 72).

Pollination of homozygous fluorescent plants with hyperploid TB9a (99^{B⁹B⁹}) gave fluorescent seedlings as well as normals. This hemizygous test places the gene for blue fluorescent-1 in the long arm of chromosome 9 distal to the break in TB-9a. As this is an excellent marker gene it will make possible an efficient study of the genetic behavior of TB-9a.

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