

CHROMOSOME ABERRATION

INTRODUCTION:- We know that ~~arrayed~~ genes are arrayed on the chromosome in a definite linear order. Sometimes due to accident, radiation or chemicals the structure of chromosome may change which affects the phenotypic characters of the organism. Such structural changes or alteration of chromosomes are called chromosome mutations or chromosomal aberrations. There may be of two types.

1. Intrachromosomal aberrations - when the change is confined to one of the chromosomes of a homologous pair.
2. Interchromosomal aberration - when interchange of chromosomal parts takes place between nonhomologous chromosomes.

Intrachromosomal aberrations:

① Deletion: Deletion is the loss of a part of a chromosome. If the internal part is lost it is terminal deletion or if an intersegmental part is lost it is interstitial deletion. In this case the middle part forms the deletion ring and the two terminal points join to form one changed chromosome. The one with

(c) Inversion - When a broken part of the chromosome re-unites with the part in a reverse order. It reduces the rate of crossing over and maintains heterozygosity in offspring.

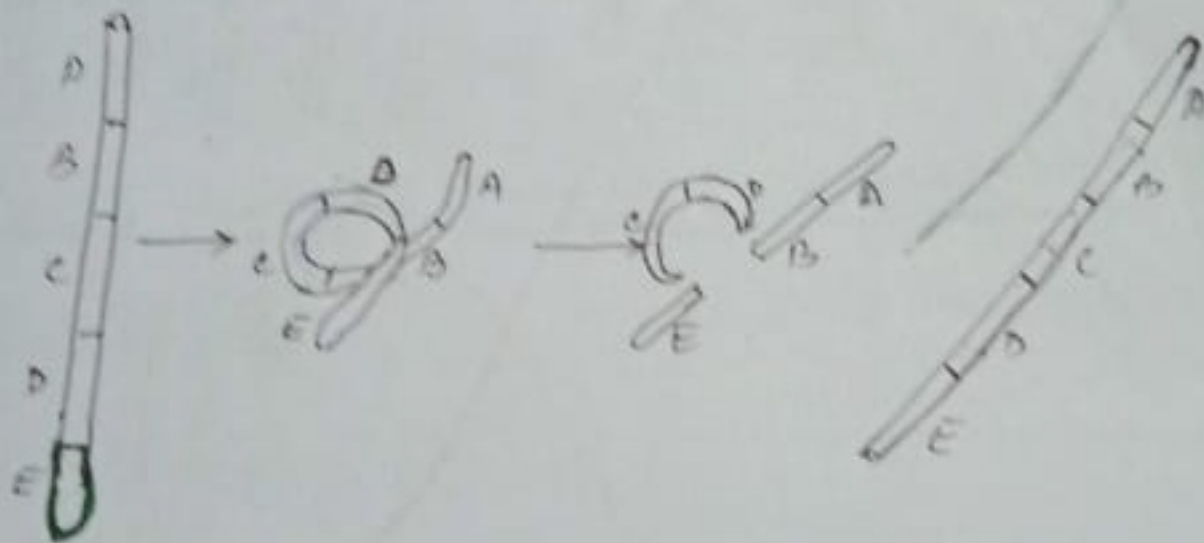


Fig: Inversion

Interchromosomal aberration:

Translocation: It involves the exchange of parts between two nonhomologous chromosomes:-

