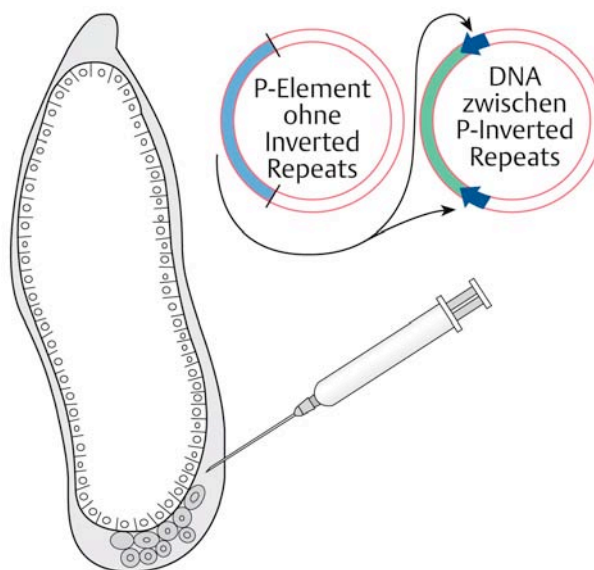


Transposons als genetische Werkzeuge

- P-Elemente und Transformation von *Drosophila melanogaster*
- Transposonmutagenese (*tagging mutagenesis*)
- Genome scanning
- Signature tagging mutagenesis (STM)
- Mutator-Maschinen
- Erzeugung von Deletionen

Transformation von *Drosophila* mit Hilfe von P-Elementen



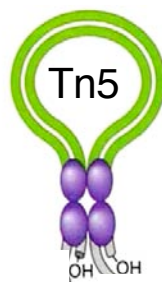
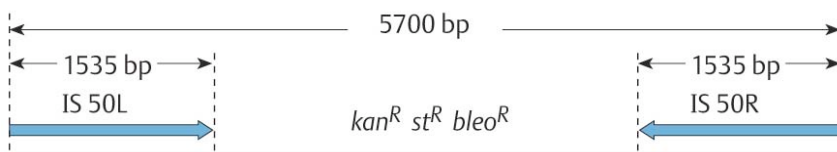
Embryo (*Drosophila*-M-Stamm)

Transposonmutagenese



Das betroffene Gen ist durch die Insertion markiert
„Tagging mutagenesis“

Insertionsmutagenese durch Elektroporation von Tn5 Tn5 Transpositionskomplexen (*Transposomes*TM)

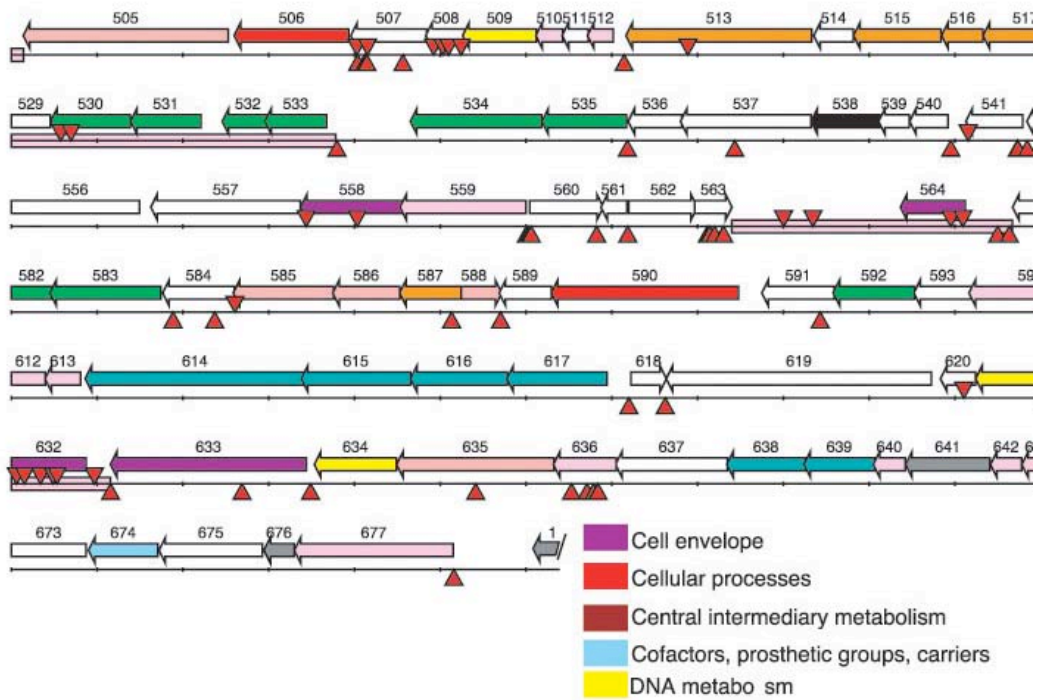




Genome scanning

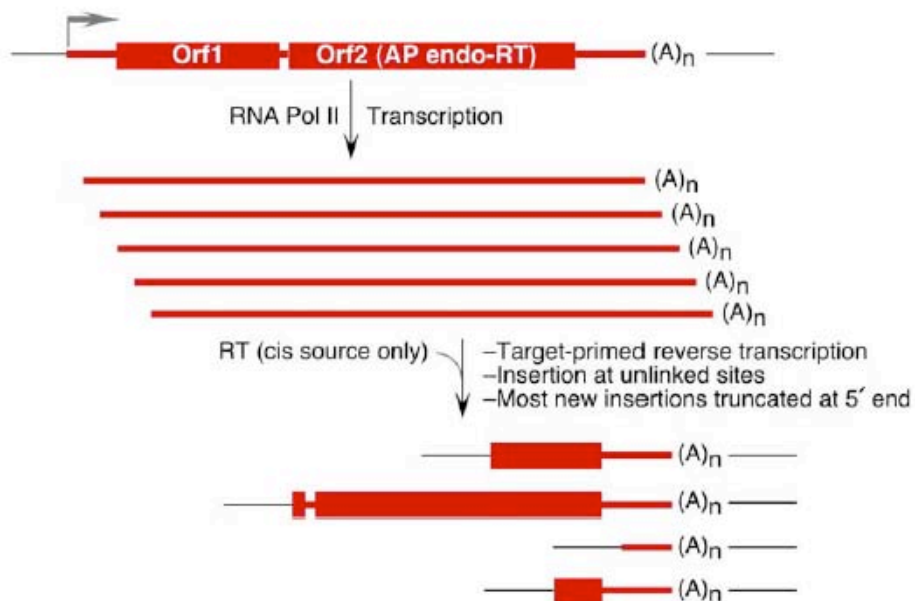


Minimalgenom von *Mycobacterium tuberculosis*

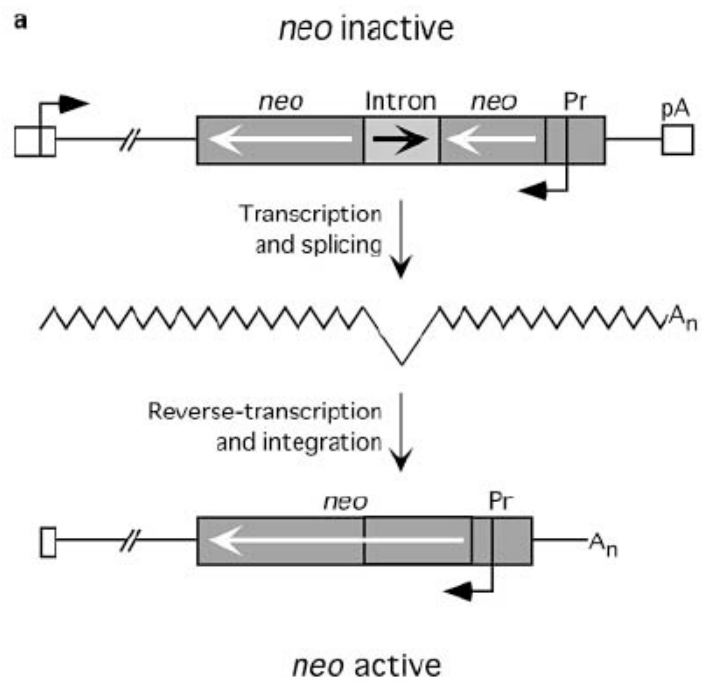


Transposonmutagenese in Säugerzellen

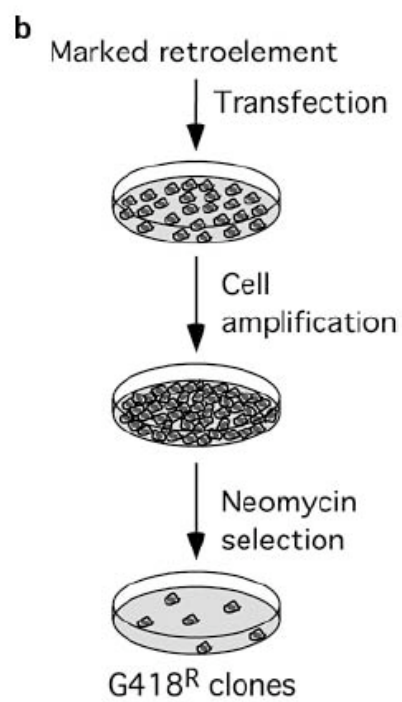
B L1 retrotransposon



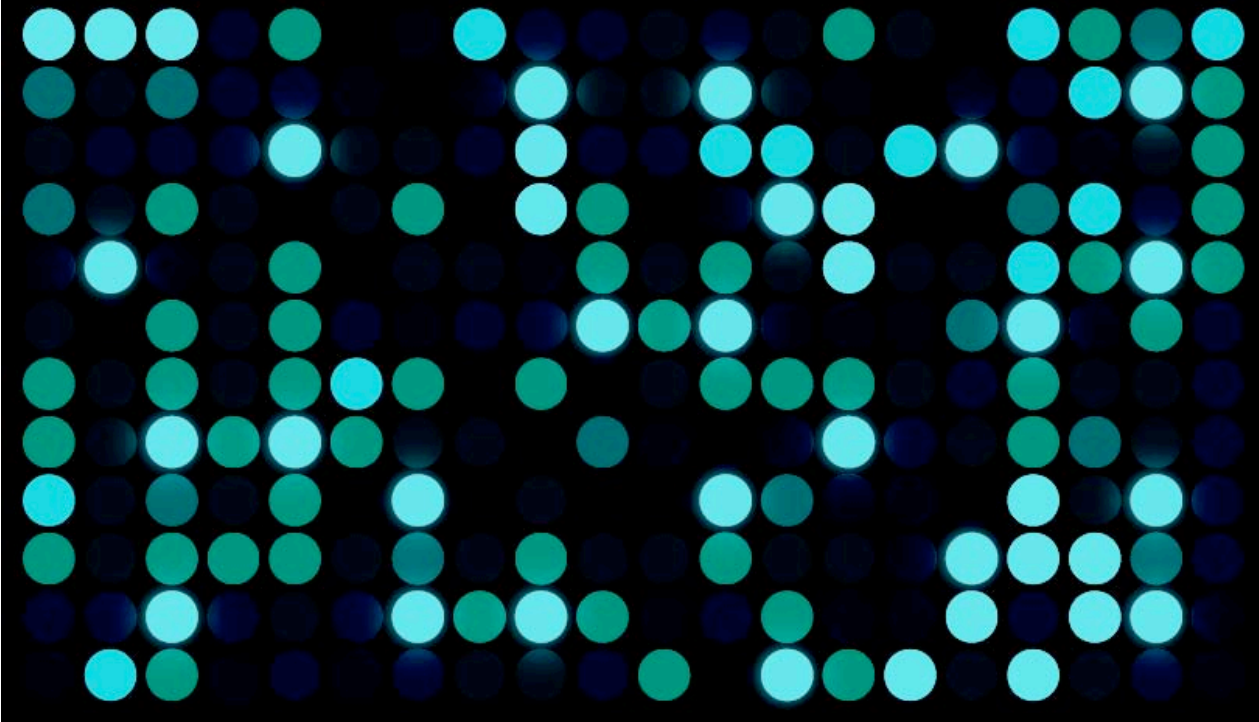
Transposonmutagenese in Säugerzellen



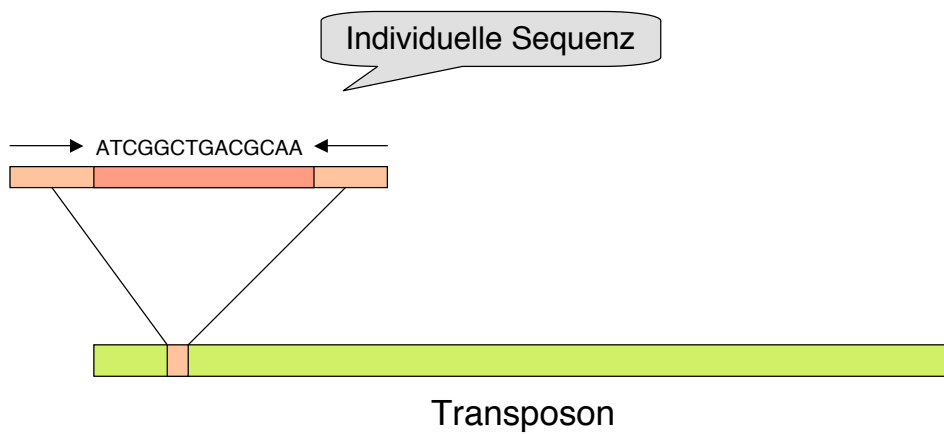
Transposonmutagenese in Säugerzellen

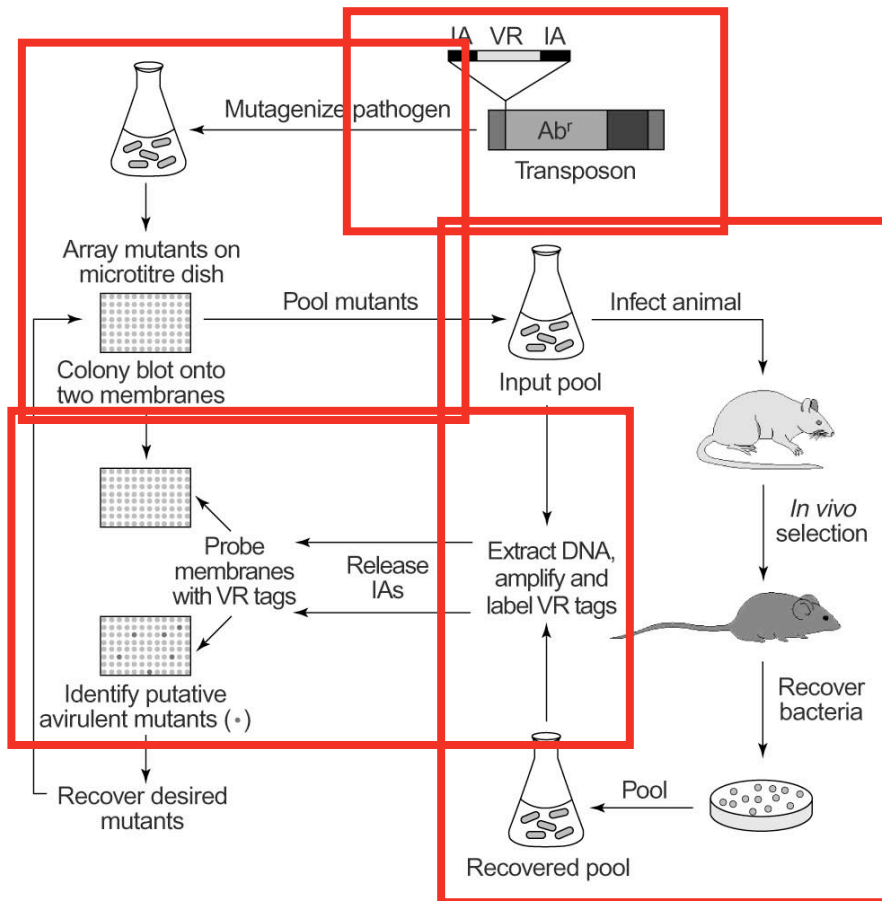


Signature tagging mutagenesis



Signature tagging mutagenesis

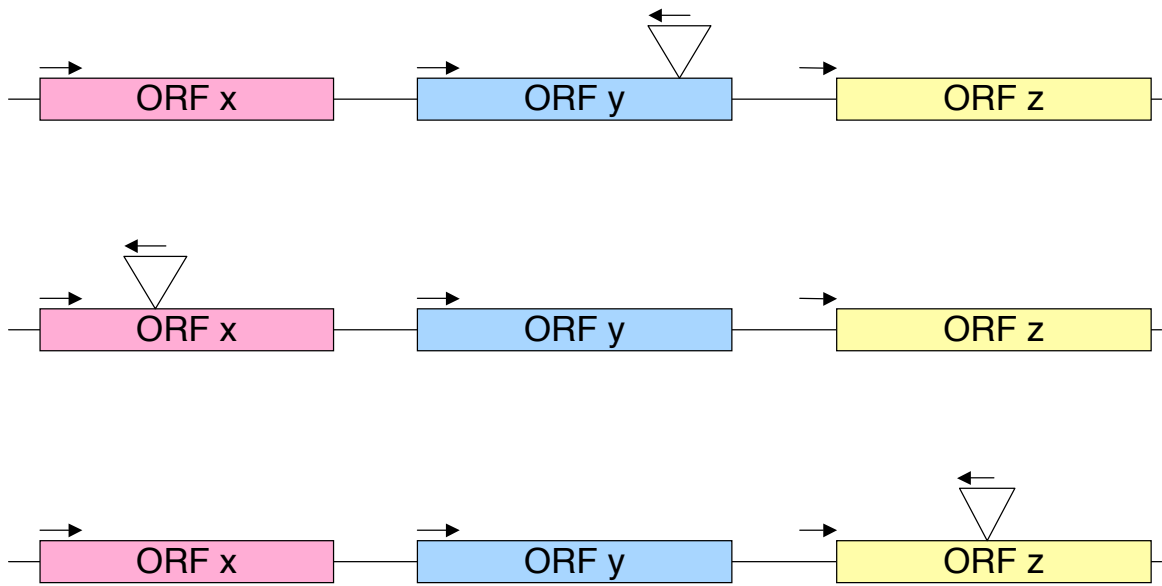




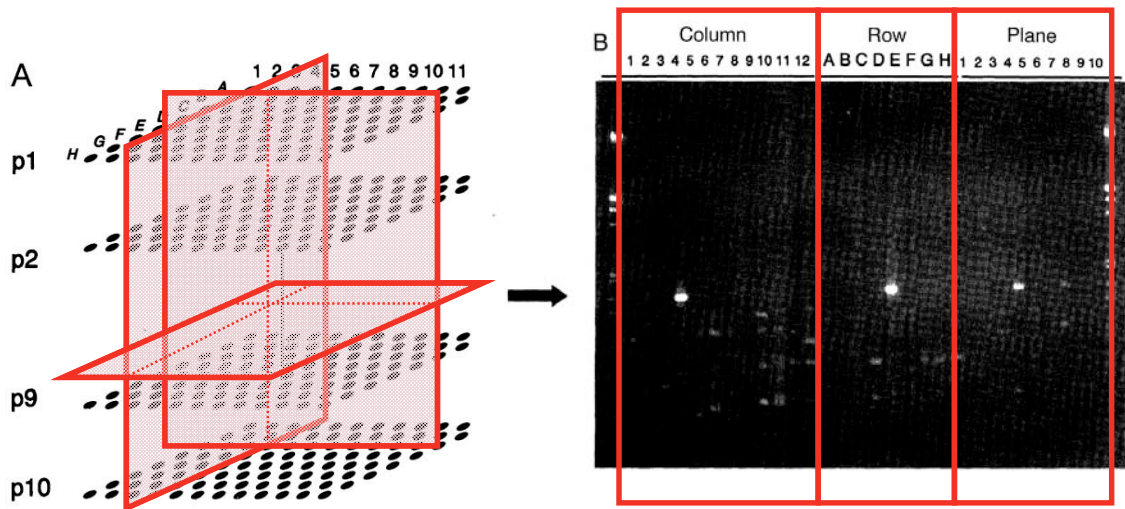
Mutator Maschine

Problem: In vielen Organismen ist es nicht möglich, gezielt Mutanten durch Genaustausch zu erzeugen

Mutator Maschine



Mutator Maschine



Deletionsgenerator

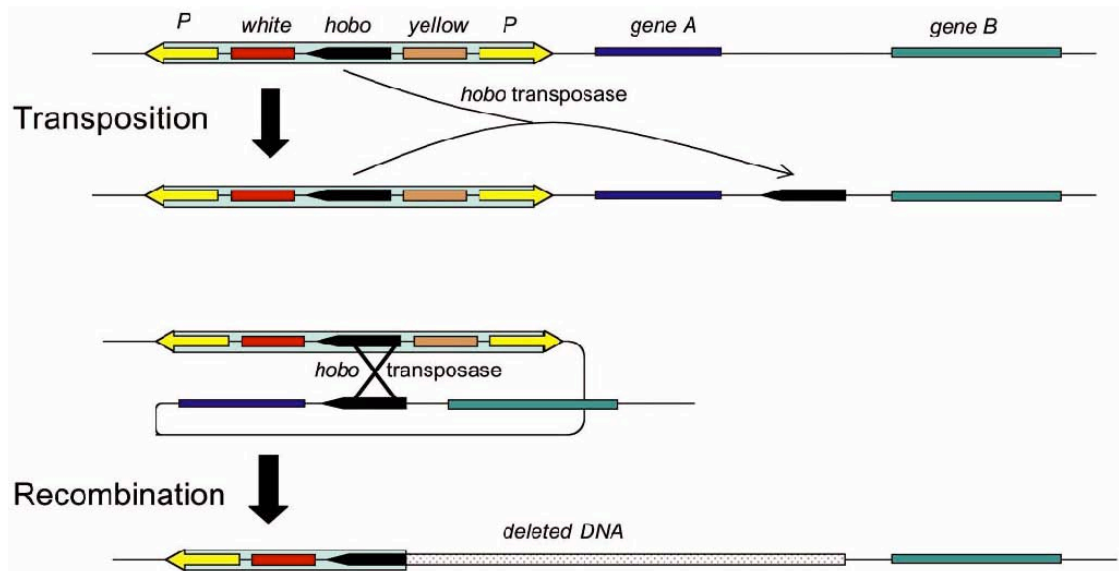


Fig. 1. Deletions in lines carrying the hybrid P-hobo element P(wHy) are generated by hobo transposase in two steps. Deletions extend precisely to the point where the duplicated element inserted.