

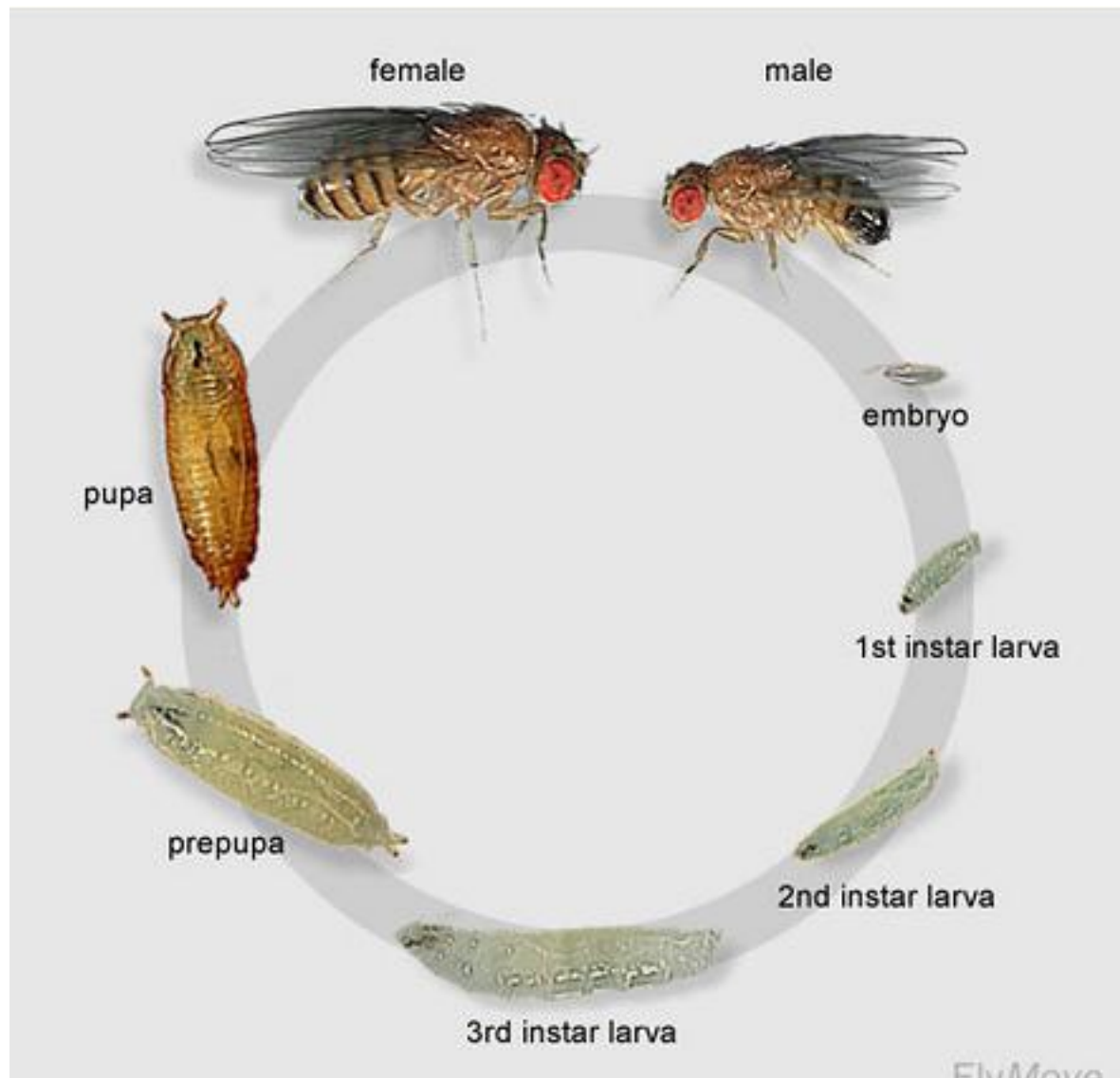
Генная инженерия ЖИВОТНЫХ

Практикум
ФББ МГУ – ЦКП ИБГ РАН
2015

Drosophila melanogaster



Жизненный цикл



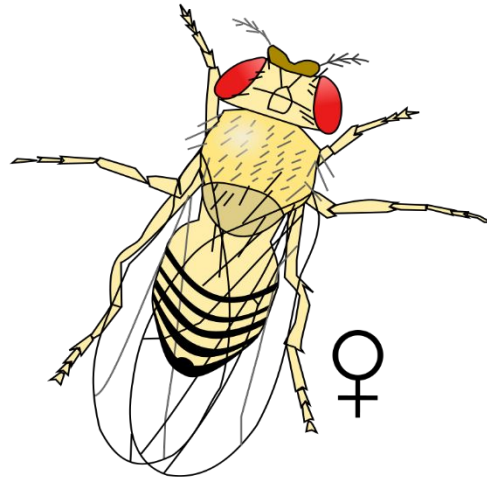
- Половозрелы на 7й день при температуре развития 28С

Мальчики и девочки

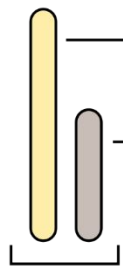
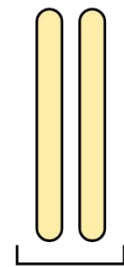
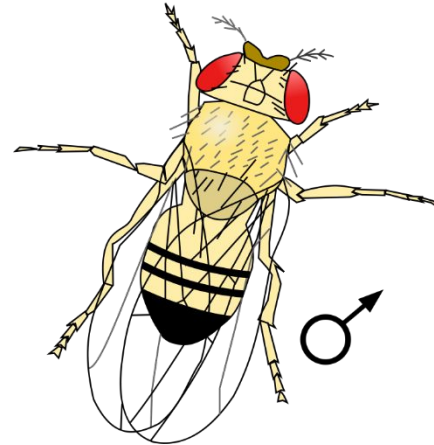
3.22 mm



Female



Male



X chromosome

Y chromosome

Sex chromosomes



Фенотипы: глаза

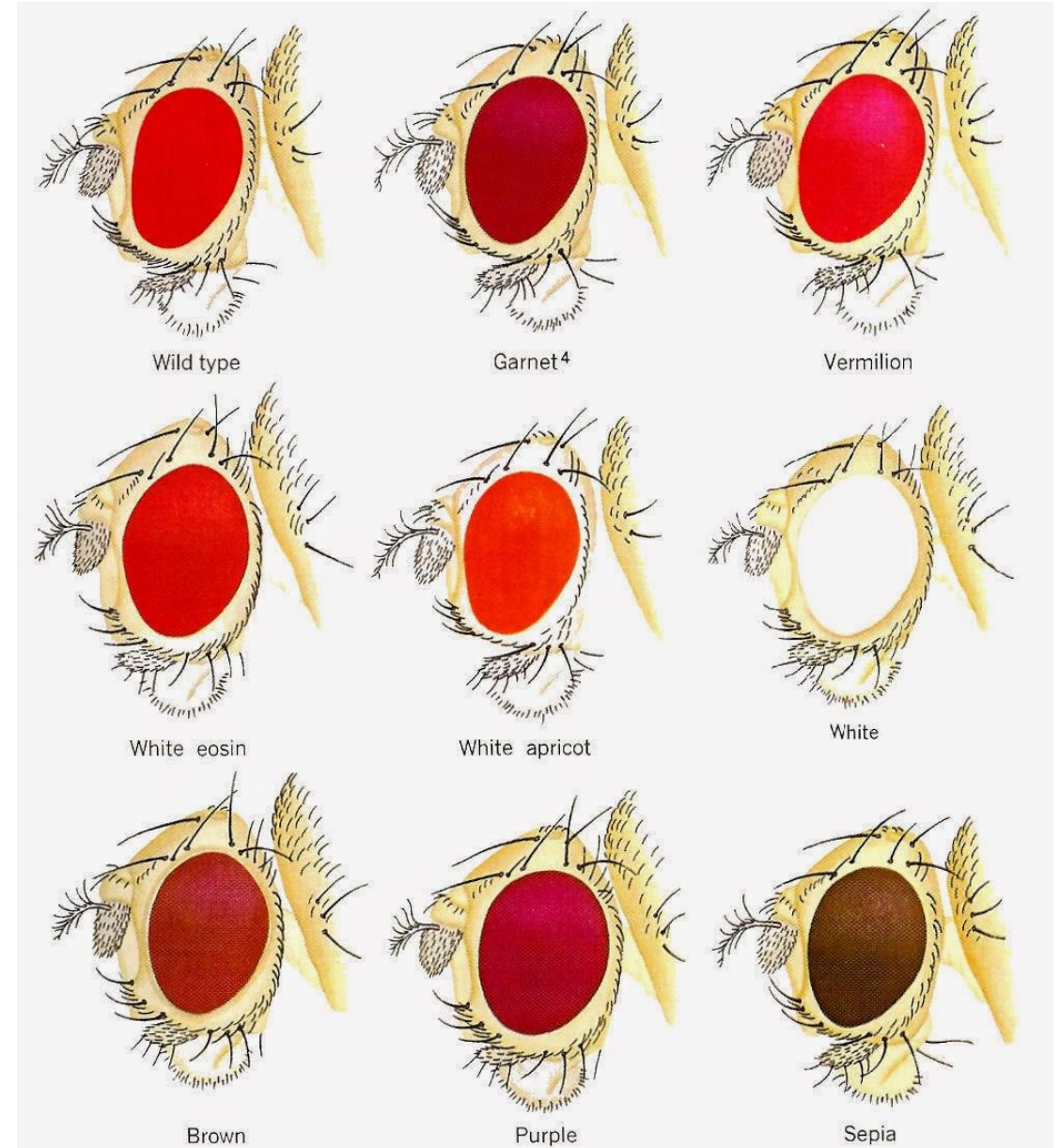
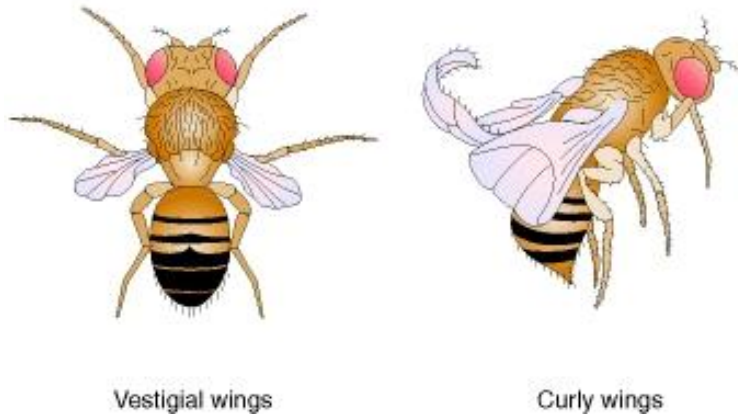
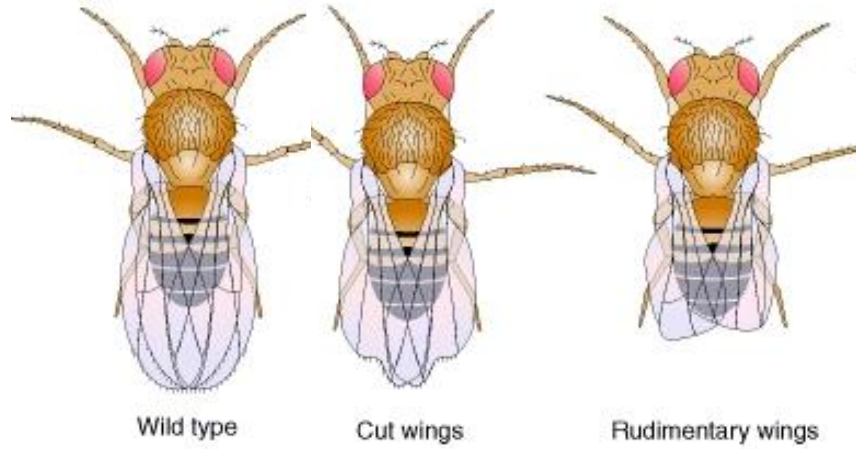


Plate I. Some eye colors in *Drosophila melanogaster*. (After E. M. Wallace, in *An Introduction to Genetics* by Sturtevant and Beadle, Saunders, 1938.)

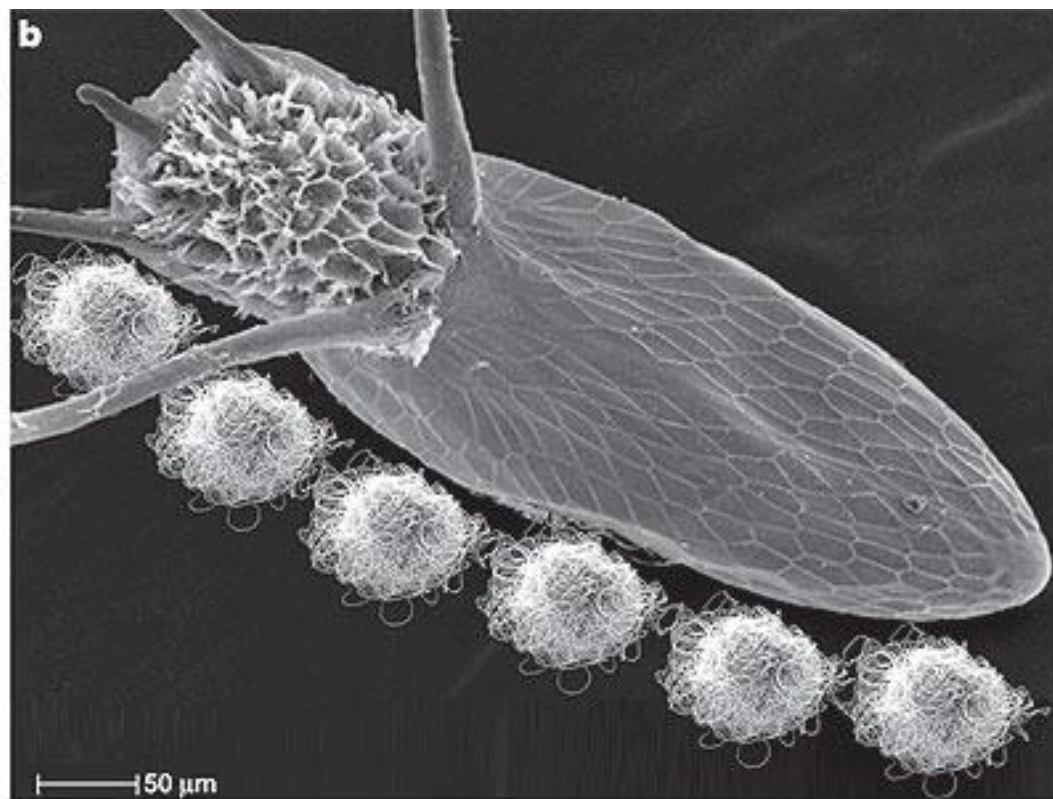
Фенотипы: тело



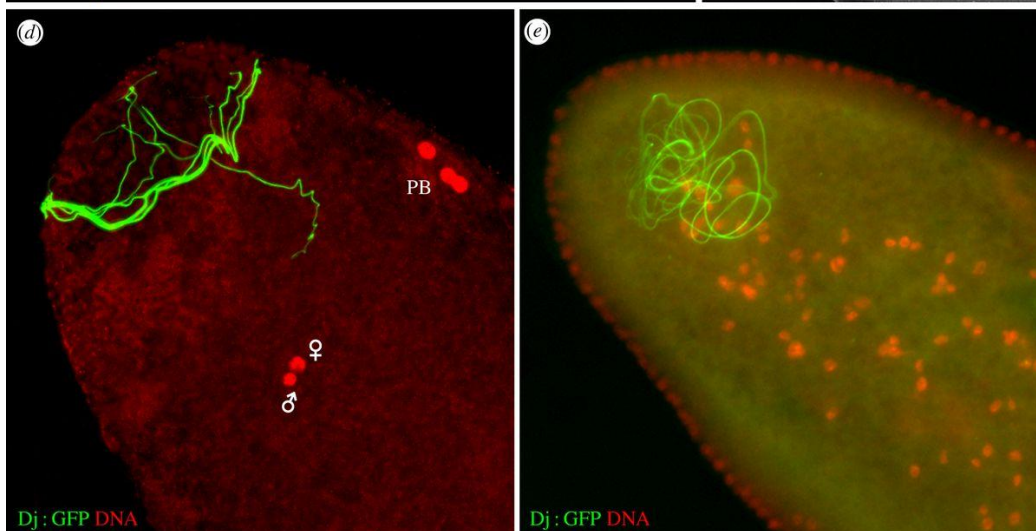
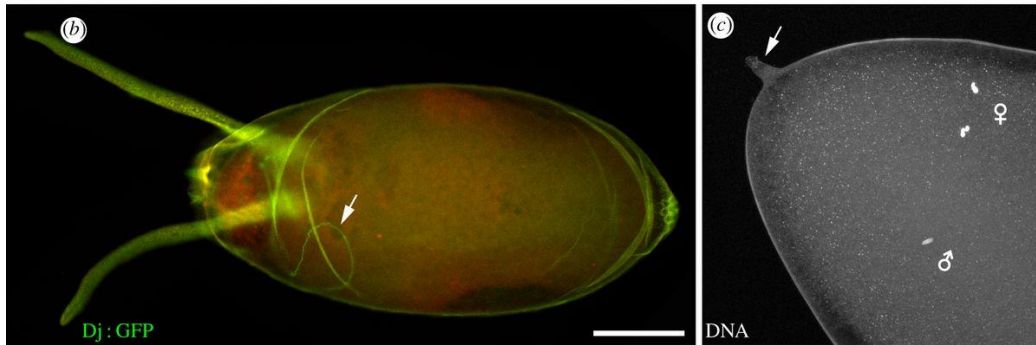
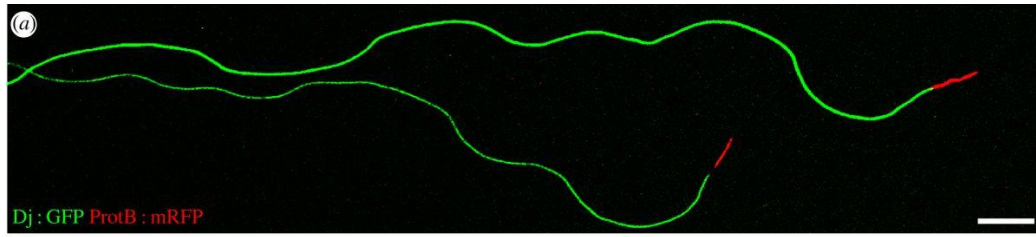
Фенотипы: крылья



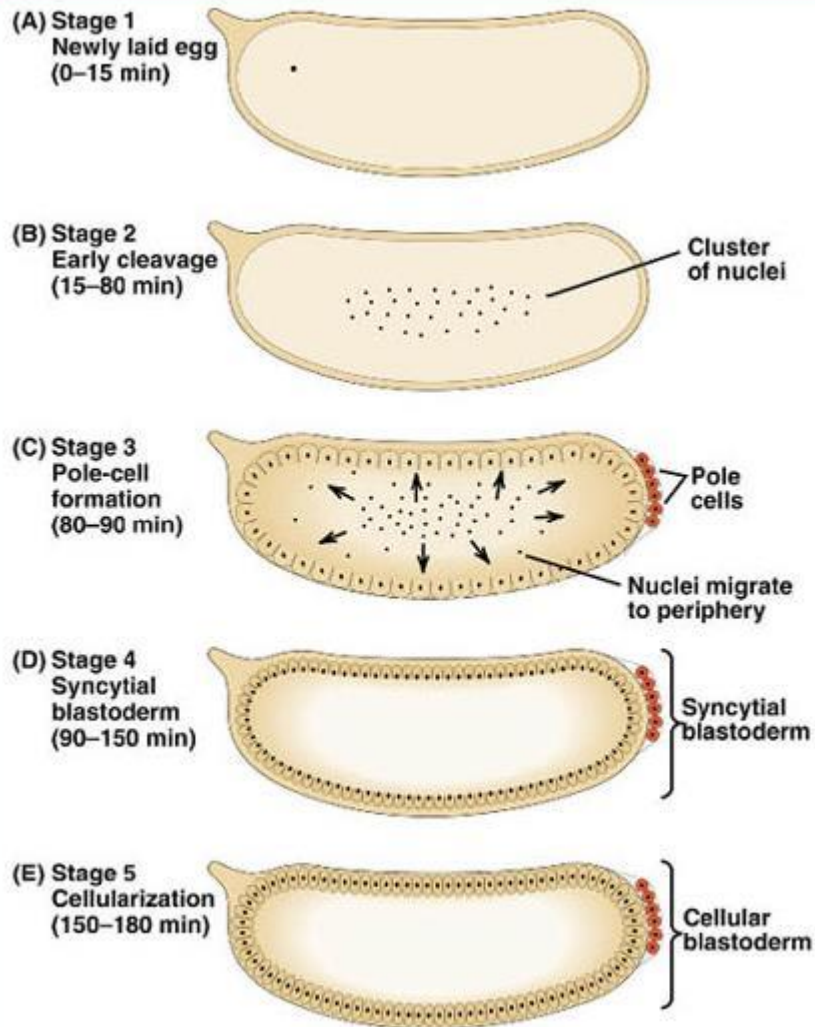
Яйцеклетки и сперматозоиды



Оплодотворение



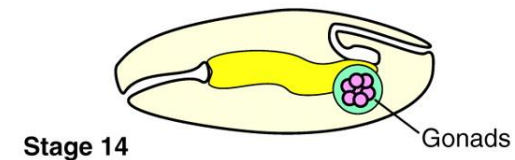
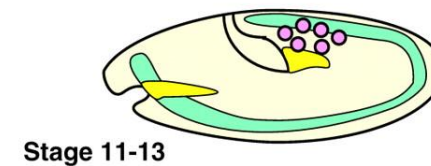
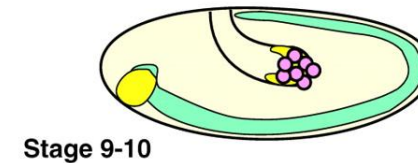
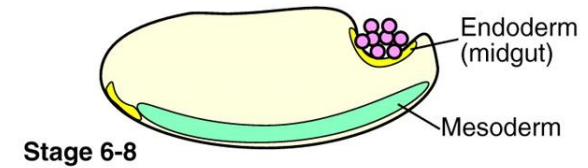
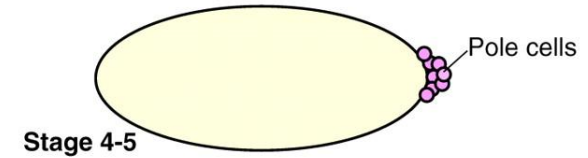
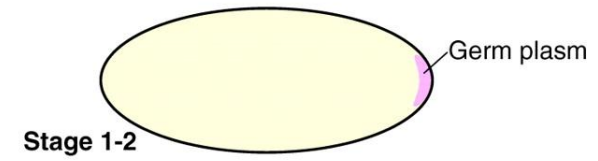
Эмбриональное развитие



- Полилецитальная, центролецитальная яйцеклетка
- Поверхностное дробление
- Образование первых клеток через 90 мин

Успеть за 80 минут

- Полярные клетки – предшественники клеток зародышевой линии



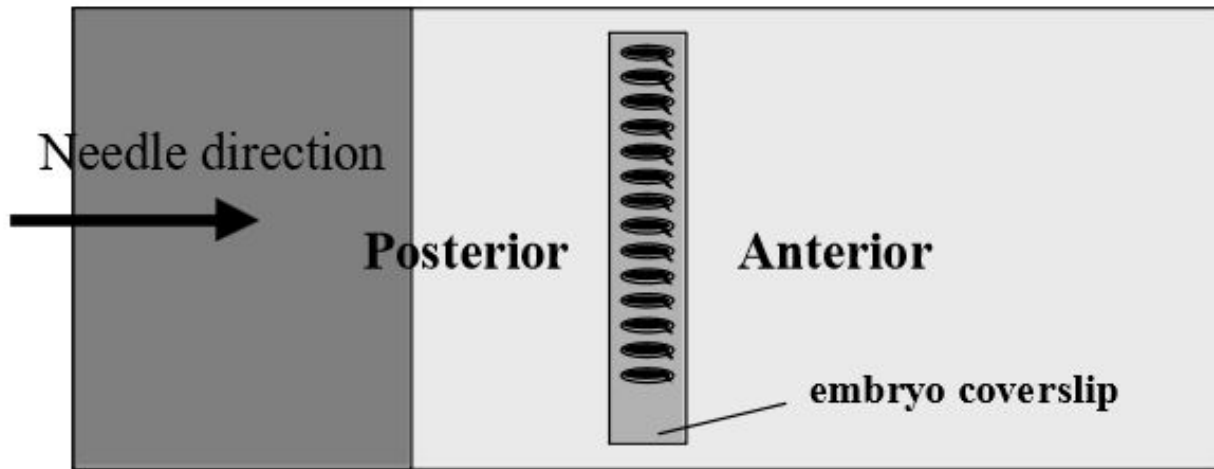
Сбор эмбрионов и культивирование



Egg lay chamber.

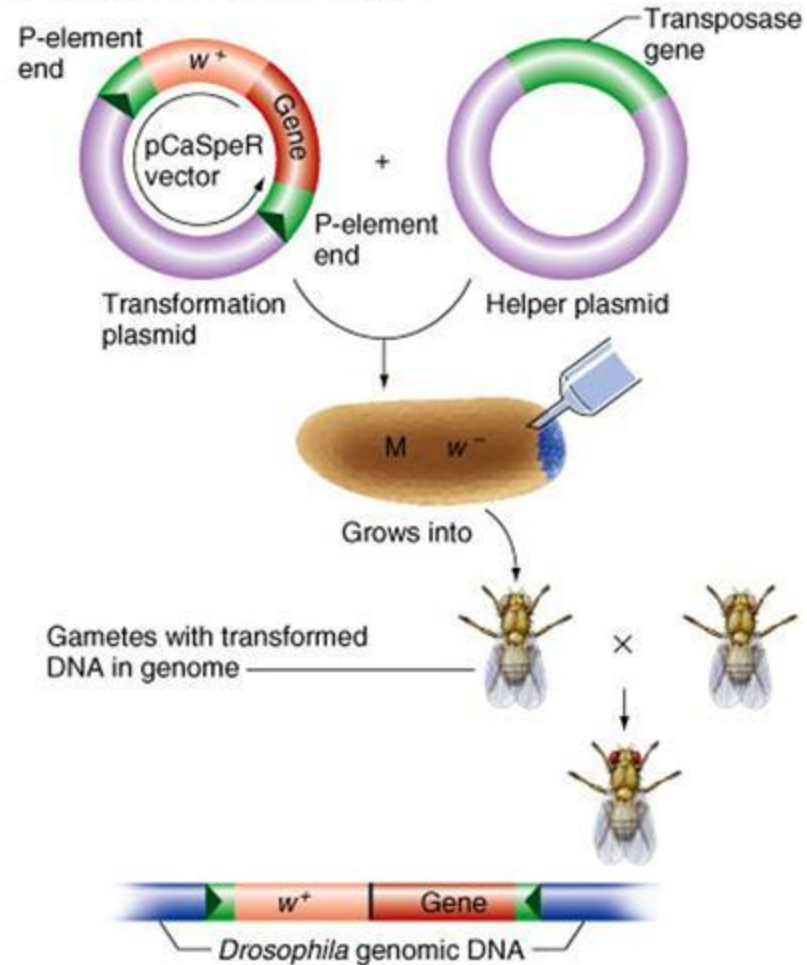


Микроинъекции

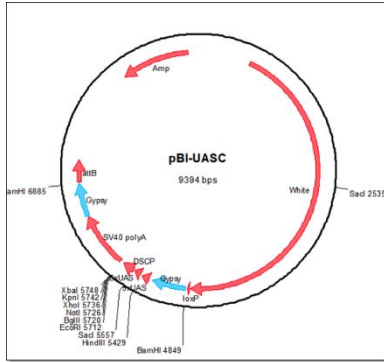


Transformation of *Drosophila*

(a) Transformation of *Drosophila*



Obtaining of the transgenic *D. melanogaster*

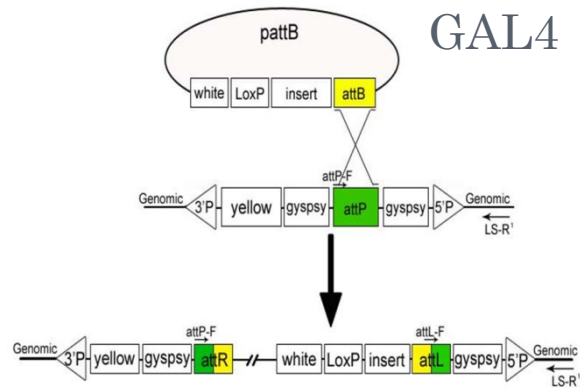


PCR, cloning of the ORFs which encode target sequence



Microinjection in the embryos, which contain AttP-sight in their genome

Crossing of transgenic flies with driver line expressing GAL4



1 LS: Landing site

