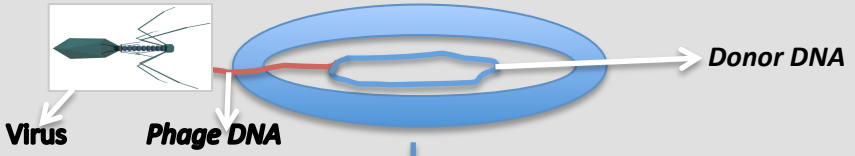
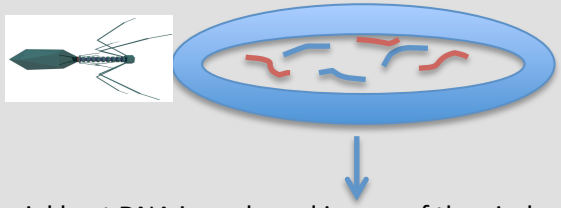
TRANSDUCTION PROCESS

Generalized Transduction

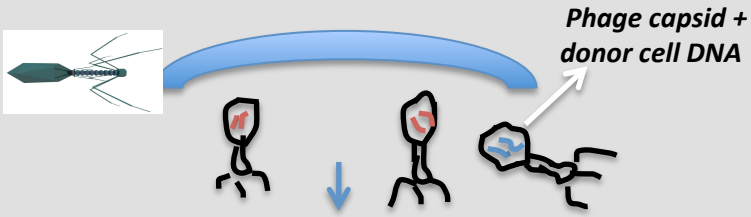
1) Bacterial host cell (Donor cell) infected by phage.



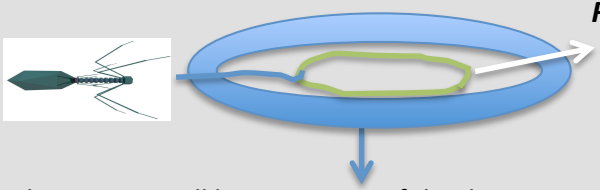
2) Host cell DNA is broken down into smaller pieces. Proteins and phage DNA is also synthesized.



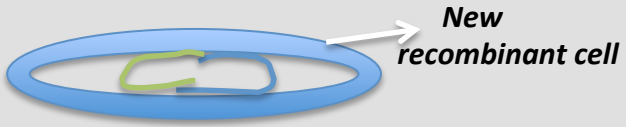
3) Bacterial host DNA is packaged in one of the viral capsids that are released through lysis of the bacterial cell.



4) Transducing phage with host DNA infest new recipient cell. Recombination also occurs here.

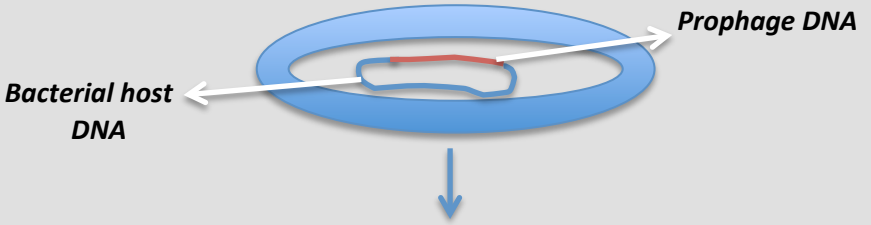


5) Recombinant new cell has a mixture of the donor DNA 1 and one of its own DNA. Its genotype is different.

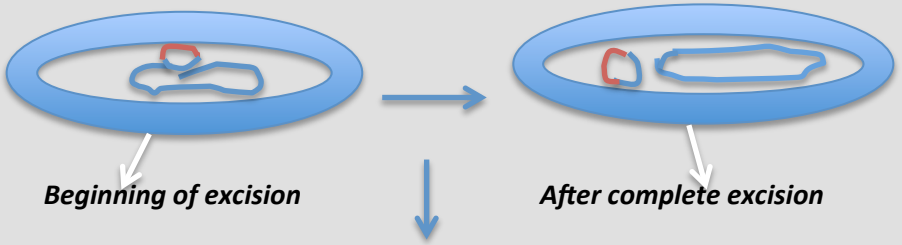


Specialized Transduction

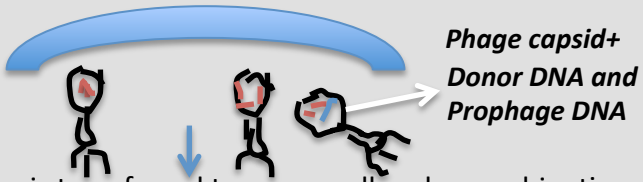
1) Prophage DNA integrated into the bacterial DNA.



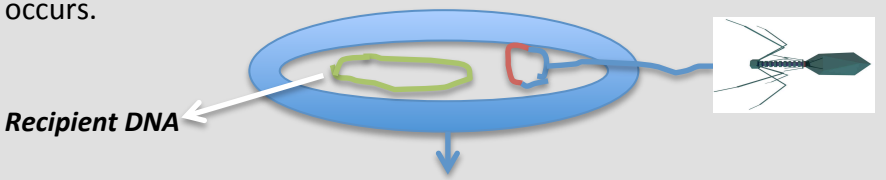
2) Prophage DNA cuts incorrectly and exchanges its DNA to that of bacterial host cell.



3) Phage capsids contain bacterial host DNA, which is is transferred to a new bacterial recipient cell.



4) Transduced phage is transferred to a new cell and recombination occurs.



5) The recombinant cell DNA has a different genotype, which is different from the donor or recipient cell genotype.