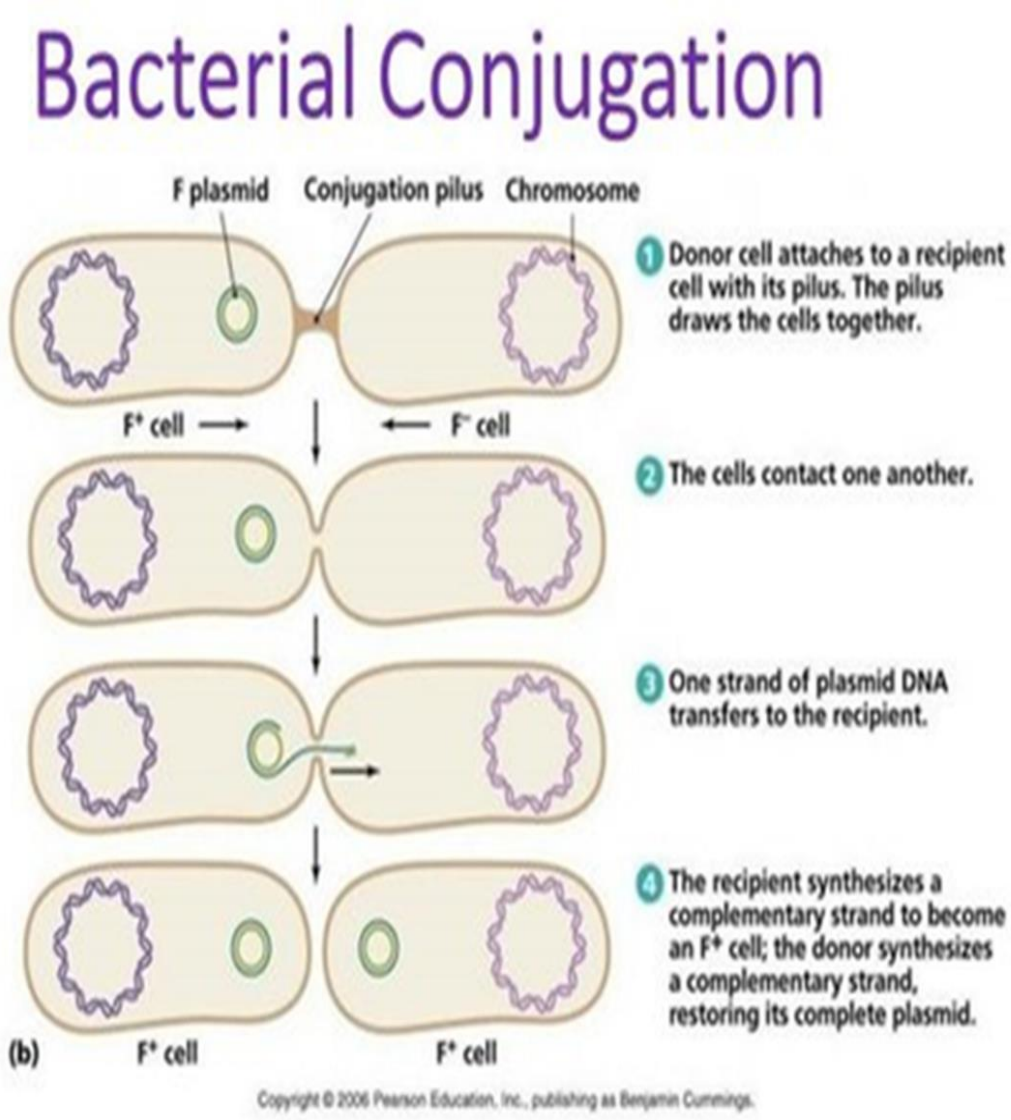
Bacterial Conjugation

Conjugation: is the transfer of genetic material between two bacterial cells or by forming a bridge like structure known as (conjugation tube) between the two cells. The conjugation regarded as sexual production of bacteria.

The protocol of conjugation in the transfer of F plasmid (**Fertility plasmid**).

The bacterial cell that has F plasmid know as **F+ or F donor** while the one that lack the plasmid know as **F- or F recipient**.



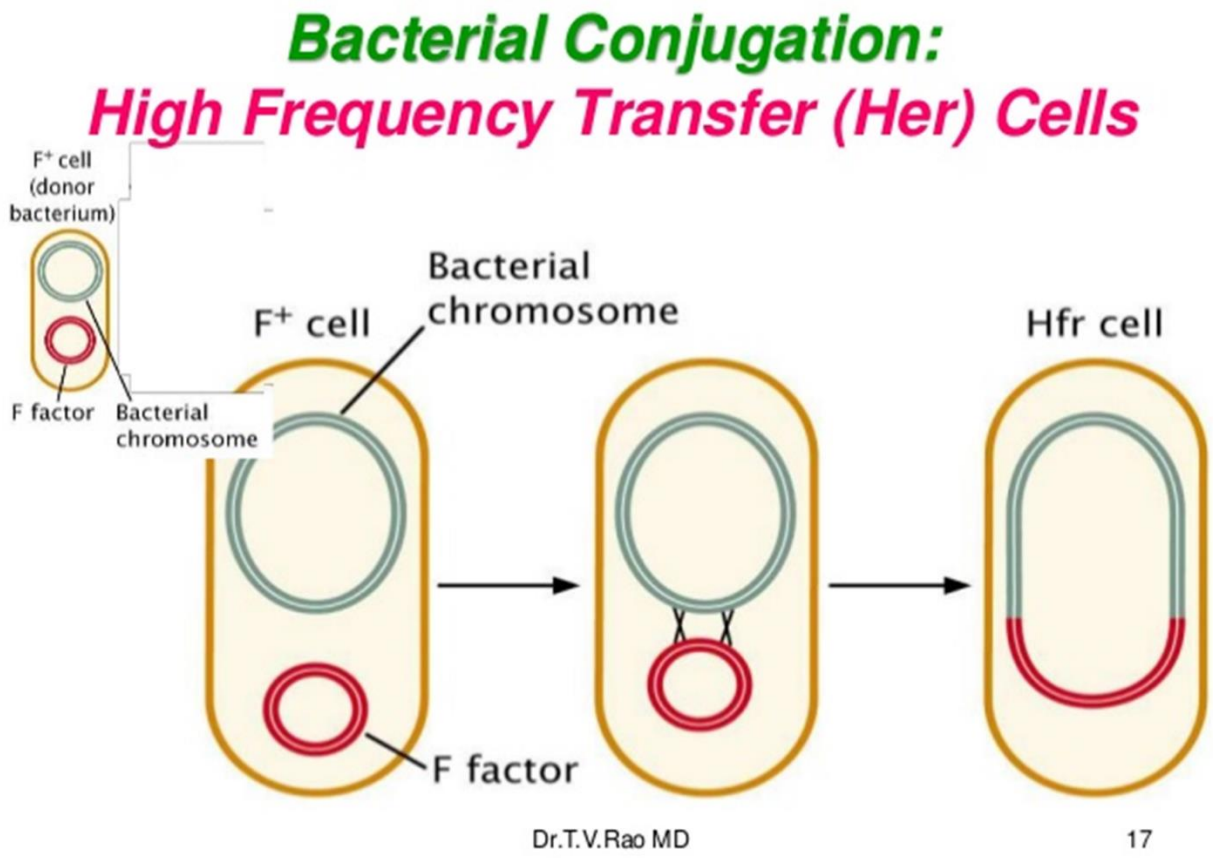
Steps of Conjugation

Hfr (High frequency of Recombination)

In this case the F plasmid has been already transferred to the bacterial cell , somehow the plasmid is conjugated with bacterial chromosome (DNA).

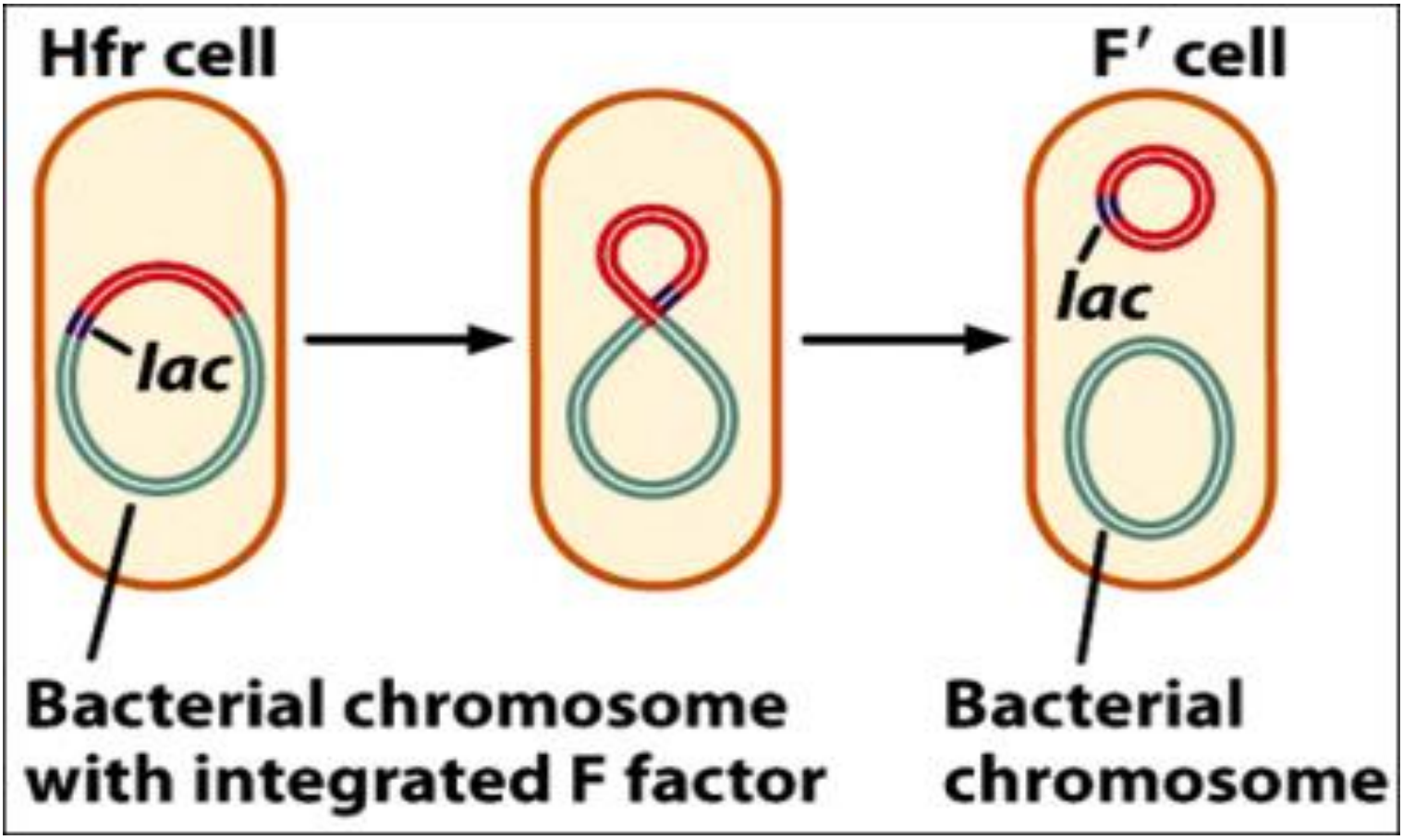
When the Hfr is formed?

During bacterial conjugation the conjugation tube may destroyed, so only fragments of the plasmid will transfer so they become more suitable to be conjugated with DNA to form Hfr cell.



F’ (F prime)

Hfr cells sometimes try to punch-out the plasmid from the chromosome forming plasmid containing small piece of the bacterial chromosome.



Types of Cells formed during Conjugation:

1- F+

2- F-

3- Hfr

4- F prime