

UNIT - I

Phagemid :-

* A phagemid or phasmid is a type of cloning vector developed as a hybrid of the filamentous phage M13 and plasmids to produce a vector that can grow as a plasmid, and also be packaged as single standard DNA in viral particles.

* Phagemids contain an origin of replication for double standard replication, as well as an f_1 ori to enable single standard replication and packaging into phage particles.

* Many commonly used plasmids contain an f_1 ori and are thus phagemids.

* Similarly to a plasmid, a phagemid can be used to clone DNA fragments and be introduced into a bacterial host by a range of techniques.

* However infection of a ~~range of techniques~~ bacterial host containing a phagemid with a helper phage, for examples VCSM13 or M13KO7. Provides the necessary viral components to enable single standard DNA replication and

and packaging of the phagemid DNA into phage particles.

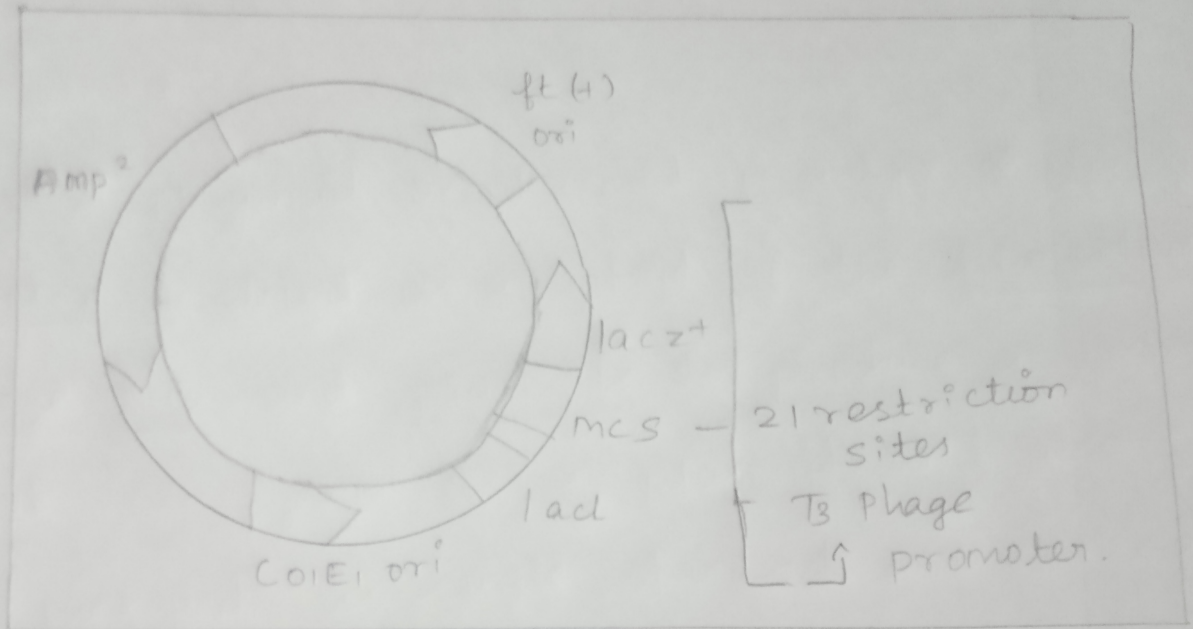
* These are secreted through the cell wall and released into the medium.

* Filamentous phage retard bacterial growth but, in contrast to lambda and T7 phage, are not generally lytic.

* Helper phage are usually engineered to package less efficiently than the phagemid so that the resultant phage particles contain predominantly phagemid DNA.

* F₁ filamentous phage infection requires the presence of a pilus so only bacterial hosts containing the F-Plasmid or its derivatives can be used to generate phage particles.

* The displayed peptides and polypeptides are associated with the corresponding coding DNA within the phage particle and so this technique lends itself to the study of protein-protein interactions and other ligand/receptor combinations.



phagemid.