

Transduction

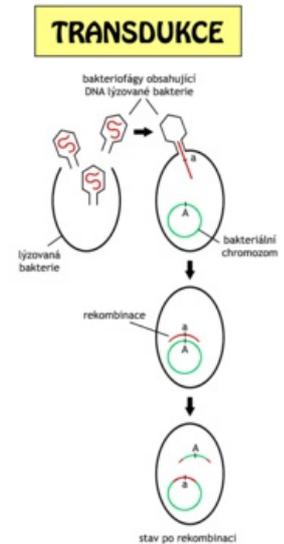
Transfer of part of the genetic information from one bacterium to another (recipient) via a bacteriophage . Transduction is possible in the lysogenic cycle of virus reproduction.

Generalized (general) transduction is an event in which a bacteriophage transfers **any part** of the donor genome (chromosome fragment or plasmid) to a recipient cell. It manifests itself as an inherited change in subsequent generations of bacteria if DNA has been incorporated into the chromosome of the recipient cell.

Specialized transduction is an event in which a mild bacteriophage transfers only **a certain part of** its chromosome from a donor to a recipient. The site of integration of the virus into the bacterial chromosome is precisely determined. Both the virus and the chromosome must contain the sequence att, by which they attach to each other, the circular chromosome of the bacterium and the virus are disconnected and the viral information is incorporated. The virus integrated into the bacterial chromosome is called a **prophage** . This process is **reversible** and the re-digested virus can initiate the **lytic cycle** of the cell.

Abortive transduction is an event in which the transferred part of the donor genome does **not replicate** in the host .

Transduction is a natural element of modern genetic engineering, where a tempered phage corrects a host inherited defect by introducing a normal gene into its genome.



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Links

Related articles

- Parasexual processes in bacteria
 - Transformation
 - Conjugation

Source

- ŠTEFÁNEK, Jiří. *Medicína, nemoci, studium na 1. LF UK* [online]. [cit. 2010-03-14]. <<http://www.stefajir.cz>>.
- ŠVÍGLEROVÁ, Jitka. *Transdukce* [online]. Poslední revize 2009-02-18, [cit. 2010-11-14]. <<https://web.archive.org/web/20160306065550/http://wiki.lfp-studium.cz/index.php/Transdukce>>.
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References

- KOHOUTOVÁ, Milada. *Lékařská biologie a genetika (II. díl)*. 1. vydání. Praha : Nakladatelství Karolinum, 2013. 202 s. ISBN 978-80-246-1873-9.
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