



EZ-Tn5™ Transposon and Transposome Kits

Speed your metagenomics, strain engineering, and mutagenesis projects with EZ-Tn5™ Transposomics™

Use this powerful system to:

- **Create mutant libraries** for bacterial strain development
- **Identify essential genes** or regulatory elements
- **Generate random insertional knockout libraries** in your favorite bacterial strain
- **Insert promoter sequences** for gene expression studies
- **Sequence** large clones and chromosomal DNA easily
- **Recover and propagate plasmids** from diverse bacterial genera



Transposomics provides a fast and easy method for generating a library of DNA sequences with insertional mutations, or a library of live mutant bacteria. Many genomics applications benefit from the high efficiency and low bias of the EZ-Tn5 system, including metagenomics, strain development, functional genomics and large fragment sequencing. Transposomics is easier than chemical mutagenesis, and is a trusted and well-established method for generating mutations across over 60 species of bacteria. With 100's of publications and a wide array of applications and tools available, you are limited only by your imagination.

Method	Example Applications	Target	Transposon Tools Used
In Vivo Transposomics	Create mutant bacterial libraries and insertional gene knockouts	Living bacteria (genomic DNA)	Transposome (complex of transposon DNA and EZ-Tn5™ Transposase enzyme)
In Vitro Transposomics	Insert replication origins into viral or novel plasmids	Purified DNA (plasmid or genomic DNA)	Transposon DNA sequence + EZ-Tn5™ Transposase enzyme

What is an EZ-Tn5 Transposome?

Transposomes are used for in vivo mutagenesis in a broad range of bacteria, including Gram positive and Gram negative strains. A Transposome is a stable complex of an engineered hyperactive Tn5 Transposase enzyme, and a DNA sequence (transposon) to be inserted (Figure 1).

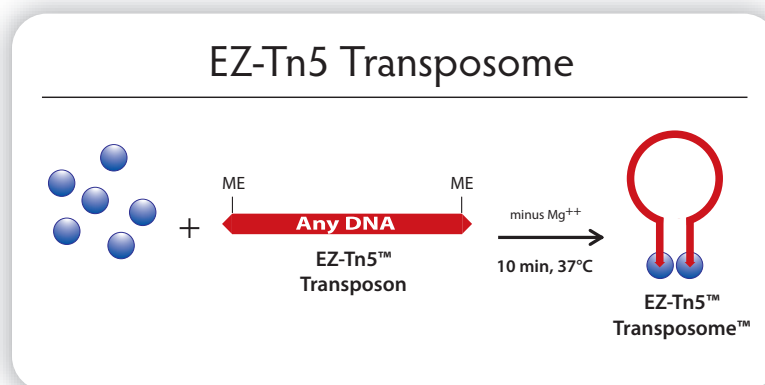


Figure 1. An EZ-Tn5 Transposome is the stable complex formed by EZ-Tn5 Transposon with EZ-Tn5 Transposase in the absence of Mg⁺⁺.



How are EZ-Tn5 Transposomes used?

Simply electroporate the EZ-Tn5 Transposome of choice into electrocompetent bacteria and allow the cells to recover (Figure 2). After growth on selective media, surviving colonies contain an EZ-Tn5 Transposon randomly inserted into their genomic DNA. Screen transposon-insertion clones using a phenotypic assay, genomic DNA sequencing, or PCR.

How are EZ-Tn5 Transposon Insertion Kits used?

EZ-Tn5 Insertion Kits are designed to insert a modified DNA sequence (transposon) into purified DNA. A simple, one-step in vitro reaction randomly inserts the transposon into your target DNA (Figure 3). Transform *E. coli* cells with an aliquot of the reaction and select for the marker encoded by the EZ-Tn5 Transposon. Map the insertion site with primers provided in the kits with bidirectional sequencing from primer binding sites at the ends of the inserted transposon (Figure 3).

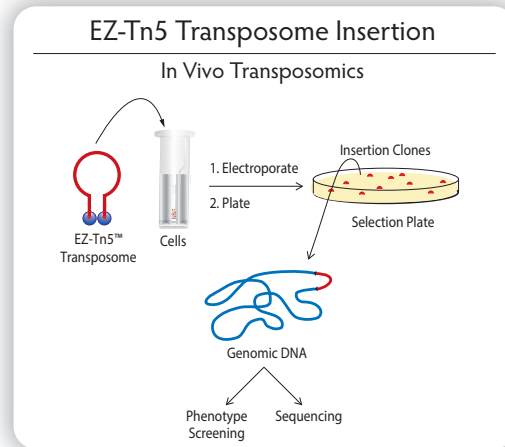


Figure 2. An EZ-Tn5 Transposome Complex can be electroporated into living cells where it randomly inserts the transposon insertion site into the host's genomic DNA. The EZ-Tn5 Transposon insertion site can be analyzed by a variety of methods.

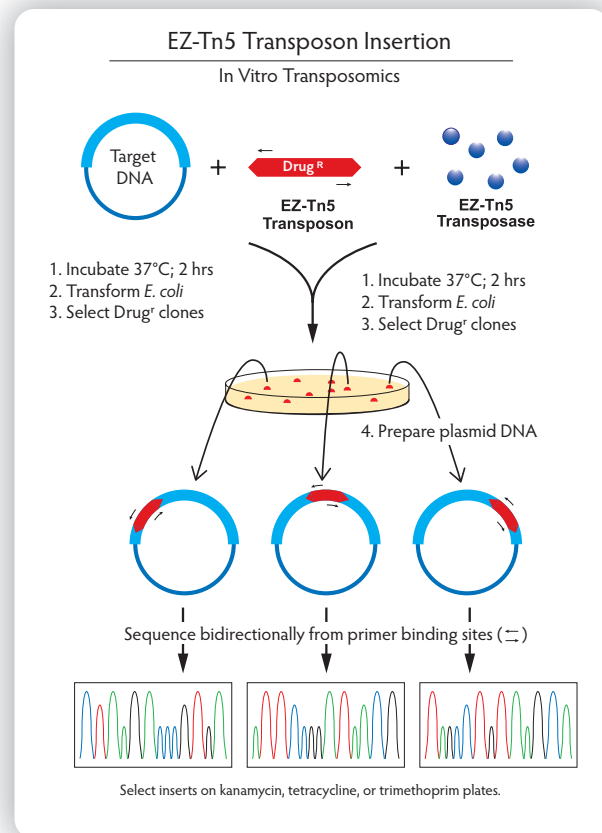


Figure 3. The process for generating DNA sequencing templates using an EZ-Tn5 Insertion kit.

Products	Size	Cat. No.	Price
In Vivo Transposomics Tools			
EZ-Tn5™ <R6Kyori/KAN-2>Tnp Transposome™ Kit	10 rxns	TSM08KR	\$521
EZ-Tn5™ <KAN-2>Tnp Transposome™ Kit	10 rxns	TSM99K2	\$488
In Vitro Transposomics Tools			
EZ-Tn5™ Transposase	10 Units	TNP92110	\$419
EZ-Tn5™ <DHFR-1> Insertion Kit	10 rxns	EZ1912D	\$500
EZ-Tn5™ <KAN-2> Insertion Kit	10 rxns	EZ1982K	\$500
EZ-Tn5™ <TET-1> Insertion Kit	10 rxns	EZ1921T	\$500
EZ-Tn5™ <T7/KAN-2> Promoter Insertion Kit	10 rxns	EZ103T7	\$527
EZ-Tn5™ <R6Kyori/KAN-2> Insertion Kit	10 rxns	EZ1011RK	\$527

COMPONENTS

Components for In Vivo Transposomics Kits:

EZ-Tn5™ Transposome, Forward and Reverse Primers, Sterile Water.

Components for In Vitro Transposomics Kits:

EZ-Tn5™ Transposase, EZ-Tn5 Transposon, EZ-Tn5 10X Reaction Buffer, EZ-Tn5 10X

Stop Solution, Forward and Reverse Primers, Control Target DNA, Sterile Water

EZ-Tn5™ Transposon Tools for in vitro transposon insertion are covered by U.S. Patent Nos. 5,925,545; 5,948,622; 5,965,443, and 6,437,109; European Patent No. 0927258, and other patents issued or pending, exclusively licensed or assigned to Epicentre. These products are accompanied by a limited non-exclusive license for the purchaser to use the purchased product(s) solely for in vitro transposon insertion for life science research. Contact Epicentre for information on licenses for uses other than life science research.