

Tagmentase (Tn5 transposase) - unloaded

Cat. No. C01070010

Format: 10 µl / 20 µl / 500 µl / 1000 µl

Protein Concentration: 2 mg/ml

Protein Molecular weight: 53.3 kDa

Expressed: *in Escherichia coli*

Product description

Diagenode Tagmentase – unloaded is a hyperactive Tn5 transposase. The enzyme catalyzes “cut and paste” tagmentation reaction and can be used to insert any target DNA in vitro.

Storage conditions

Store at -20°C. Guaranteed stable for 6 months from date of receipt when stored properly.

Storage buffer

Supplied in solution containing 50% v/v glycerol.

Properties & Usage

The enzyme should be loaded with appropriate oligonucleotides prior to use. An efficient transposition require that insert DNA have a specific 19-bp transposase recognition sequence (Mosaic End or ME sequence) at each of its ends. The transposome assembly protocol can be found at <https://www.diagenode.com/files/protocols/PRO-Transposome-Assembly-V2.pdf>

Tagmentase is dependent on Mg⁺⁺ for activity. Avoid chelators, such as EDTA/EGTA, in reaction buffers. The enzyme is active at pH 7.5-8 at 37-55°C. SDS, EDTA/EGTA or heating to 65°C will inactivate the enzyme.

Related products:

Tagmentase Dilution Buffer, Cat. No. C01070011, is recommended for making dilutions of Tagmentase.

Tagmentation Buffer (2x), Cat. No. C01019042, is the recommended reagent to perform any tagmentation reactions. It can be used in combination with Diagenode Tagmentase (Tn5 transposase) on DNA or chromatin samples as half of the total volume reaction like in ATAC-seq protocol.

Tagmentation Buffer (1x), Cat. No. C01019042, is the recommended reagent to perform any tagmentation reactions. It can be used in combination with Diagenode Tagmentase (Tn5 transposase) on low volume samples (for example DNA or chromatin immobilized on magnetic beads), because it does not require any dilution (example of application: ChIPmentation).

Applications

Tagmentase (Tn5 transposase) – unloaded can be used in a variety of applications including transgenic experiments, barcoding and library construction for second-generation sequencing. Please note that an additional optimization might be required for custom protocols including the enzyme dose- and time-response experiments.

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Quality control

Quality Control tests are performed on each new lot of Tagmentase to meet the specifications designated for it, including:

1. Protein purity and integrity assay (SDS-PAGE)
2. Enzymatic transposase activity assay (by lambda DNA fragmentation assay and pCU19 cleavage assay)
3. Nuclease assay to confirm the absence of non-specific DNase activity
4. Functional assay by ATAC-seq

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.