

Tagmentase (Tn5 transposase) - loaded

Cat. No. C01070012

Format: 10 µl / 30 µl / 200 µl

Protein Molecular weight: 53.3 kDa

Expressed: *in Escherichia coli*

Product description

Diagenode Tagmentase – loaded is a hyperactive Tn5 transposase preloaded with Illumina-compatible sequencing adapters. Its ability to cut DNA and insert the sequencing adapters in one step makes it the perfect companion for Next-Generation Sequencing experiments.

The Tagmentase is pre-loaded with sequencing adapters compatible with Illumina Nextera platforms, as shown below. The oligos loaded on the Tagmentase are inserted into DNA upon a tagmentation reaction.

Mosaic end_reverse: 5' [PHO]CTGTCTCTTATACACATCT 3'

Mosaic end_Adapter A: 5' TCGTCGGCAGCGTCAGATGTGTATAAGAGACAG 3'

Mosaic end_Adapter B: 5' GTCTCGTGGGCTCGGAGATGTGTATAAGAGACAG 3'

Underlined regions correspond to the double-stranded part of the adapter, recognized by the Tagmentase.

The final libraries can be amplified using Diagenode Primer indexes for tagmented libraries:

24 SI for tagmented libraries, Cat. No. C01011032

24 UDI fortagmented libraries - Set I, Cat. No. C0101134

24 UDI for tagmented libraries - Set II, Cat. No. C0101136

24 UDI for tagmented libraries - Set III, Cat. No. C0101137

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

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.

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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) – loaded can be used in a variety of applications to construct library for second-generation sequencing. Please note that an additional optimization might be required for custom protocols including the enzyme dose- and time-response experiments.

For ATAC-seq and ChIPmentation, we recommend using Diagenode validated protocols:

ATAC-seq kit, Cat. No. C01080002

ChIPmentation Kit for Histones, Cat. No. C01011009

μChIPmentation Kit for Histones, Cat. No. C01011011

TAG Kit for ChIPmentation, Cat. No. C01011030

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.