diagenode
Innovating Epigenetics Solutions

TECHNICAL DATASHEET

pA-TN5 transposase (unloaded)

Cat. No. C01070002
Lot: 1c
Format: 10 µl / 30 µl
Concentration: 3.68 mg/ml
Molecular weight: 67 kD

Product description

pA-Tn5 transposase is a fusion protein of hyperactive Tn5 transposase and protein A developed for the CUT&Tag assay. For flexibility of use, the fusion protein is not pre-loaded with sequencing adapters. Please follow the recommended assembly protocol prior to use in **CUT&Tag or similar assays**.

The protein A has a high affinity to rabbit polyclonal antibodies, mouse IgG2a, IgG2b and IgA, guinea pig IgG, dog IgG, pig IgG. However, the use of secondary antibody (e.g. guinea pig anti-rabbit) is recommended for a higher sensitivity of **CUT&Tag assay**.

Suggested dilution:

For the standard **CUT&Tag assay and pA-Tn5 transposase** loaded with adaptors accordingly to Buenrostro et al 2015 and Kaya-Okur HS et al., Nature Commun. 2019, 1:250 (0.4 µl of pA-Tn5 for 100 µl of buffer) is recommended. Please note that depending on the starting amount of cells and/or primary antibody, and/or different adaptors design/loading dilution in a range 1:50-1:500 might be tested.

If customized adapters and /or protocol are used, the dilution might need an additional optimization.

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.

Precautions

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

Quality control

Each lot of pA-Tn5 transposase is quality checked by an in vitro activity test (cleavage of human genomic DNA) (Figure 1, A) and by CUT&Tag assay using H3K27me3 polyclonal ChIP-seq grade antibody (Cat. No. C15410195) (Figure 1, B).

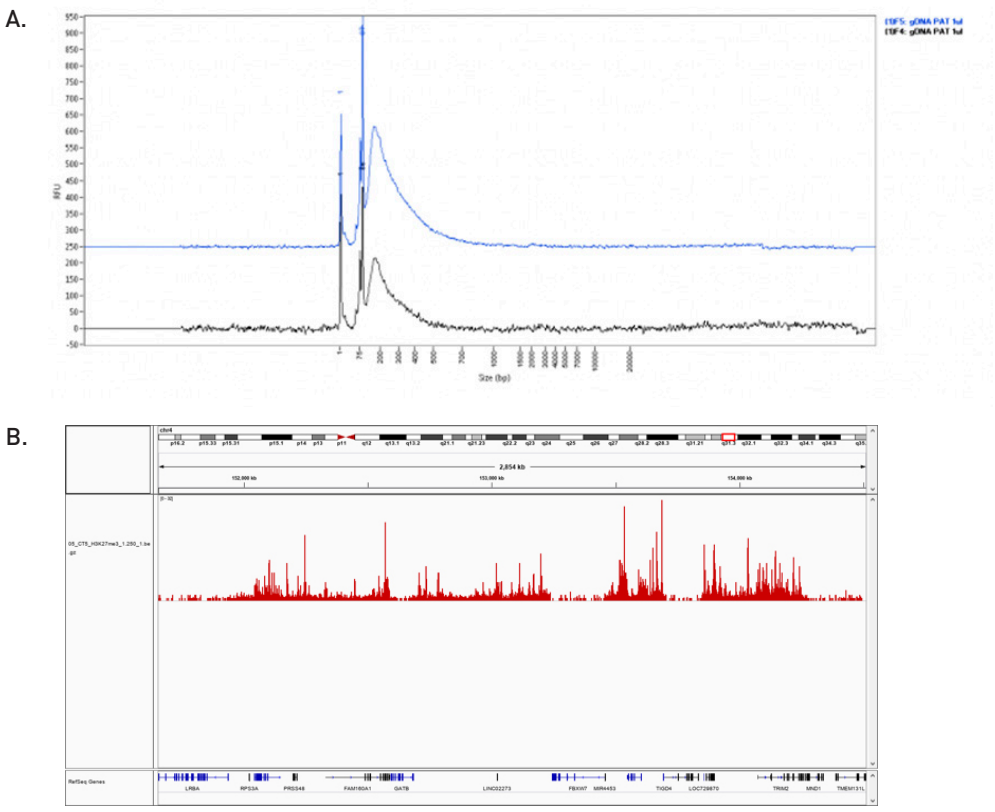

Figure 1: Quality control of pA-Tn5 transposase loaded with sequencing adapters

A: The Fragment Analyzer trace showing the representative cleavage pattern of gDNA. The pA-Tn5 fusion protein (Cat. No. C01070002) loaded with sequencing adapters efficiently digests gDNA to a smear. 500 ng of human genomic DNA were incubated for 7 min at 55°C with 1 µl of pA-Tn5 fusion protein loaded with appropriated adaptors in a tagmentation buffer (40mM Tris-HCl pH7.5, 40mM MgCl2 and 12.5% DMF). The reaction was stopped by adding SDS, cleaned-up and resolved on the Fragment Analyzer to assess the cleavage.

B: Representative screenshot at selected locus obtained using Diagenode pA-Tn5 fusion protein (Cat. No. C01070002) loaded with sequencing adapters and H3K27me3 polyclonal ChIP-seq grade antibody (Cat. No. C15410195) following CUT&Tag protocol (Kaya-Okur, H.S., Nat Commun 10, 1930 (2019)).