

Product datasheet

ChIC/CUT&RUN pAG-MNase ab285373

2 Images

Description

Product name	ChIC/CUT&RUN pAG-MNase
Biological activity	<p>pAG-MNase enzyme for performing ChIC/CUT&RUN experiments. Biological activity determined by using pAG-MNase in the ChIC/CUT&RUN experiment on 1×10^5 HeLa cells with ab188408 Anti-CTCF antibody followed by sequencing.</p> <p>pAG-MNase is supplied in 10 mM Tris HCl pH 7.5, 150 mM NaCl, 1 mM EDTA, and 50% glycerol. Use 2 μl pAG-MNase per 50 μl ChIC/CUT&RUN reaction (25X dilution).</p> <p>Number of reactions:</p> <p>100 μl vial (50 reactions)</p> <p>500 μl vial (250 reactions)</p> <ol style="list-style-type: none"><u>Schmid M, Durussel T, Laemmli U K. ChIC and ChEC: genomic mapping of chromatin proteins. Mol Cell, 16(1):147–57 (2004)</u><u>Skene P J, Henikoff J G, Henikoff S. Targeted in situ genome-wide profiling with high efficiency for low cell numbers. Nat Protoc, 13:1006–1019 (2018)</u>
Expression system	Escherichia coli
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Additional sequence information	Nuclease

Specifications

Our **Abpromise guarantee** covers the use of **ab285373** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Form	Liquid
Additional notes	<p>ChIC was first described by the Laemmli group in 2004 (1). The ChIC method involves cleavage of double-stranded DNA (1). The antibody directed pAG-MNase fusion protein (ab285373) results in 100 – 200 bp resolution mapping of DNA-bound proteins (1, 2). ChIC/CUT&RUN-seq allows chromatin immunoprecipitation to be performed on fewer than 100 cells for histone modifications and ~1000 cells for transcription factors compared to ChIP-seq which generally needs $>10^6$ cells (1, 3). Another advantage of ChIC/CUT&RUN-seq over ChIP-seq is an ~10-fold lower sequencing depth (1, 3). Abcam provides an increasing number of ChIC/CUT&RUN-seq</p>

validated antibodies to meet the needs of this emerging technique.

1. **Schmid M, Duruszel T, Laemmli U K. ChIC and ChEC; genomic mapping of chromatin proteins. Mol Cell, 16(1):147–57 (2004)**
2. **Skene P J, Henikoff J G, Henikoff S. Targeted in situ genome-wide profiling with high efficiency for low cell numbers. Nat Protoc, 13:1006–1019 (2018)**
3. **Skene P J, Henikoff S. An efficient targeted nuclease strategy for high-resolution mapping of DNA binding sites. eLife, e21856 (2017)**

Preparation and Storage

Stability and Storage

Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.

Information available upon request.

This product is an active protein and may elicit a biological response in vivo, handle with caution.

Images

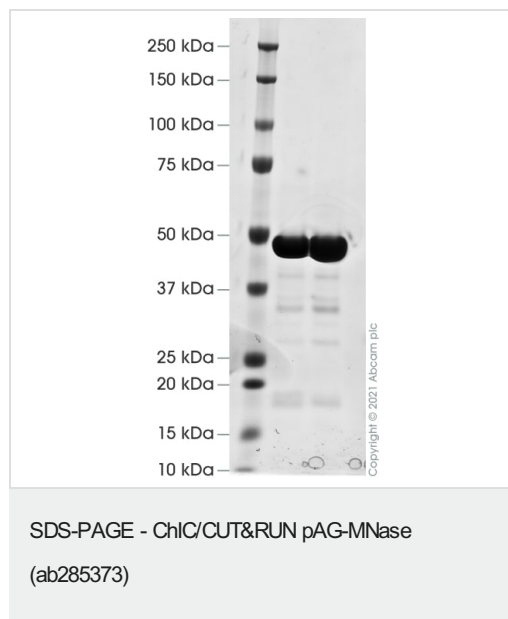


Figure 1: Protein gel of pAG-MNase

pAG-MNase ab285373 (16 µg per lane) was analysed by SDS-PAGE and stained using Coomassie Blue. The molecular weights are outlined alongside the target protein.

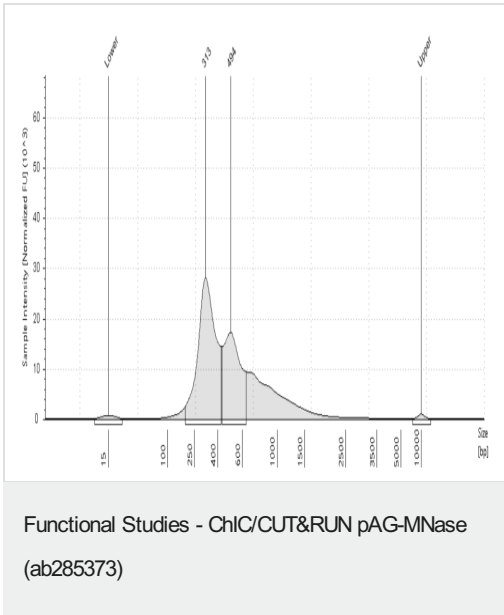


Figure 2: Size distribution of cleaved chromatin

ChIC/CUT&RUN was performed with ab285373 pAG-MNase (1:25 dilution) and Anti-CTCF antibody ([ab188408](#)). Library preparation was performed and the size of excised DNA fragments was analysed by an Agilent 4200 TapeStation. Enriched cleaved DNA mononucleosomes are observed at ~300 bp.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors