

APA181Hu03 100µg
Active Neutrophil Elastase (NE)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.

Host: *E. coli*

Residues: Ile30~Gln247

Tags: Two N-terminal Tags, His-tag and SUMO-tag

Purity: >95%

Endotoxin Level: <1.0EU per 1µg (determined by the LAL method).

Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5%Trehalose .

Original Concentration: 200µg/mL

Applications: Cell culture; Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 8.7

Predicted Molecular Mass: 37.0kDa

Accurate Molecular Mass: 40kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.

Store at 2-8°C for one month.

Aliquot and store at -80°C for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

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                                     I VGGRRARPHA WPFMVSLQLR
GGHFCGATLI APNFVMSAAH CVANVNVRAV RVVLGAHNLS RREPTRQVFA
VQRIFENGYD PVNLLNDIVI LQLNGSATIN ANVQVAQLPA QGRRLLGNGVQ
CLAMGWLLG RNRGIASVLQ ELNVTVVTSL CRRSNVCTLV RGRQAGVCFG
DSGSPLVCNG LIHGIASFVR GGCASGLYPD AFAPVAQFVN WIDSIIQ
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[ACTIVITY]

Neutrophil elastase (NE), also known as polymorphonuclear leukocyte elastase, is a major protease in the primary granules of neutrophils, is involved in microbicidal activity. It is located primarily in the azurophil granules of polymorphonuclear leukocytes. NE is an important factor promoting inflammation, has bactericidal effects, and shortens the inflammatory process. NE also regulates tumor growth by promoting metastasis and tumor microenvironment remodeling. However, NE plays a role in killing tumors under certain conditions and promotes other diseases such as pulmonary ventilation dysfunction. Additionally, it plays a complex role in various physiological processes and mediates several diseases. Myeloperoxidase (MPO) has been identified as an interactor of NE, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human NE and recombinant rat MPO. Briefly, biotin-linked NE were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to MPO-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were

aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50 µl stop solution to the wells and read at 450 nm immediately. The binding activity of recombinant human NE and recombinant rat MPO was shown in Figure 1, the EC50 for this effect is 0.66 ug/mL.

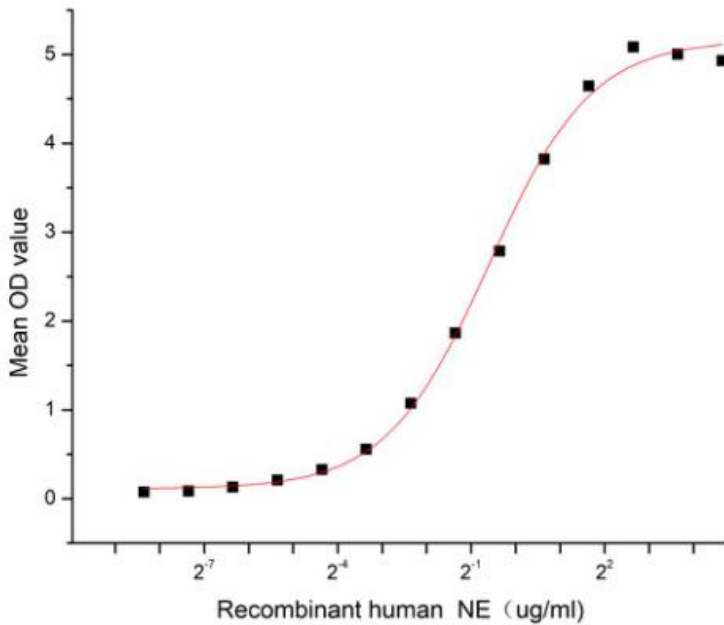


Figure 1. The binding activity of recombinant human NE and recombinant rat MPO

[IDENTIFICATION]

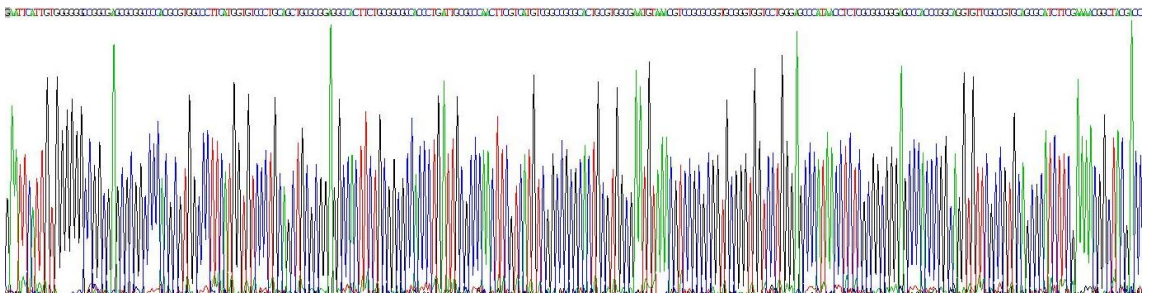


Figure 2. Gene Sequencing (extract)

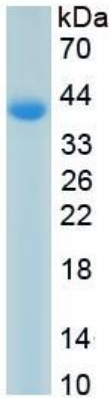


Figure 3. SDS-PAGE

Sample: Active recombinant NE, Human

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.