

APB388Mu01 100µg

Active Neutrophil gelatinase-associated lipocalin (NGAL)

Organism Species: *Mus musculus (Mouse)*

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: Gln21~Asn200

Tags: N-terminal His-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: 8.8

Predicted Molecular Mass: 22.1kDa

Accurate Molecular Mass: 22kDa 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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QDSTQNLIPA PSLITVPLQP DFRSDQFRGR WYVVGLAGNA
VQKKTEGSFT MYSTIYELQE NNSYNVTSIL VRDQDQGCYR WIRTFVPSSR AGQFTLGNMH
RYPQVQSYNV QVATTDYNQF AMVFFRKTSE NKQYFKITLY GRTKELSPLE KERFTRFAKS
LGLKDDNIIF SVPTDQCIDN
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[ACTIVITY]

Lipocalin-2, also known as Neutrophil Gelatinase-Associated Lipocalin (NGAL), was originally identified as a component of neutrophil granules. It is a 25 kDa protein existing in monomeric and homo- and heterodimeric forms, the latter as a dimer with human neutrophil gelatinases (MMP-9). Its expression has been observed in most tissues normally exposed to microorganism, and its synthesis is induced in epithelial cells during inflammation. Lipocalin-2 has been implicated in a variety of processes including cell differentiation, tumorigenesis, and apoptosis. Studies indicate that Lipocalin-2 binds a bacterial catechol siderophore bound to ferric ion such as enterobactin with a subnanomolar dissociation constant ($K_d = 0.41 \text{ nM}$). The bound ferric enterobactin complex breaks down slowly in a month into dihydroxybenzoyl serine and dihydroxybenzoic acid (DHBA). It also binds to a ferric DHBA complex with much less K_d values (7.9 nM). The activity assay of recombinant mouse NGAL was measured by its ability to bind Iron(III) dihydroxybenzoic acid $\text{Fe}(\text{DHBA})_3$. The binding of $\text{Fe}(\text{DHBA})_3$ results in the quenching of Trp fluorescence in Lipocalin-2. The recombinant mouse NGAL was diluted to 100 $\mu\text{g/ml}$ in assay buffer (50 mM Tris, 10 mM CaCl_2 , 150 mM NaCl, pH 7.5). 50 μL of the different concentrations of $\text{Fe}(\text{DHBA})_3$ and 50 μL of 100 $\mu\text{g/ml}$ rmNGAL was loaded into the plate.

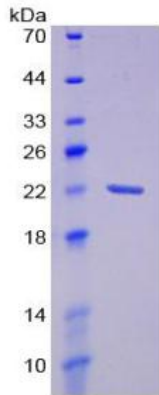


Figure 3. SDS-PAGE

Sample: Active recombinant NGAL, Mouse

[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.