APC074Mu01 100μg
Active Laminin Alpha 2 (LAMa2)
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: Ser2901~Asn3106
Tags: N-terminal His-tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% Sarcosyl, 5%Trehalose .
Original Concentration: 200μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 6.8
Predicted Molecular Mass: 23.7kDa
Accurate Molecular Mass: 29kDa as determined by SDS-PAGE reducing conditions.
Phenomenon explanation:
The possible reasons that the actual band size differs from the predicted are as follows:
1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[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]

SLDGCVRNLH MEQAPVDLDQ PTSSFHVGTC FANAESGTYF DGTGFGKAVG
GFIVGLDLLV EFEFRTTRPT GVLLGISSQK MDGMGIEMID EKLMFHVDNG
AGRFTAIYDA EIPGHMCNGQ WYKVTAKKIK NRLELVVDGN QVDAQSPNSA
STSADTNDPV FVGGFPGGLN QFGLTTNIRF RGCIRSLKLT KGTANRWRLI
LPRPWN

[ACTIVITY]

Laminin Alpha 2 (LAMa2) is a large- sized alpha- chain subunit of laminin, a major structural glycoprotein residing in basement membranes across various tissues. It is predominantly expressed in skeletal muscle, peripheral nerves and placenta, assembling with other laminin subunits to form heterotrimeric laminin complexes that maintain basement- membrane integrity. This subunit mediates cell- matrix adhesion, stabilizes muscle cell membrane architecture, supports Schwann cell anchoring around nerve axons, and modulates cell proliferation, differentiation and tissue regeneration. Loss or mutation of LAMa2 frequently causes congenital muscular dystrophy and peripheral nerve dysmyelination, as impaired basement membrane assembly disrupts tissue mechanical support and

intercellular signal transmission. Its expression level is finely tuned during development and tissue injury repair. LAMa2 associates with LAMC2 to constitute partial heterotrimeric laminin assemblies for basement membrane construction. To detect the activity of recombinant mouse LAMa2, a functional ELISA assay was performed to evaluate the interaction between recombinant mouse LAMa2 and recombinant human LAMC2. Briefly, biotin-linked LAMa2 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100μl were then transferred to LAMC2-coated microtiter wells and incubated for 1h at 37℃. 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℃. Finally, add 50μl stop solution to the wells and read at 450nm immediately. The binding activity of mouse LAMa2 and human LAMC2 was shown in Figure 1, the EC50 for this effect is 0.135 μg/mL.

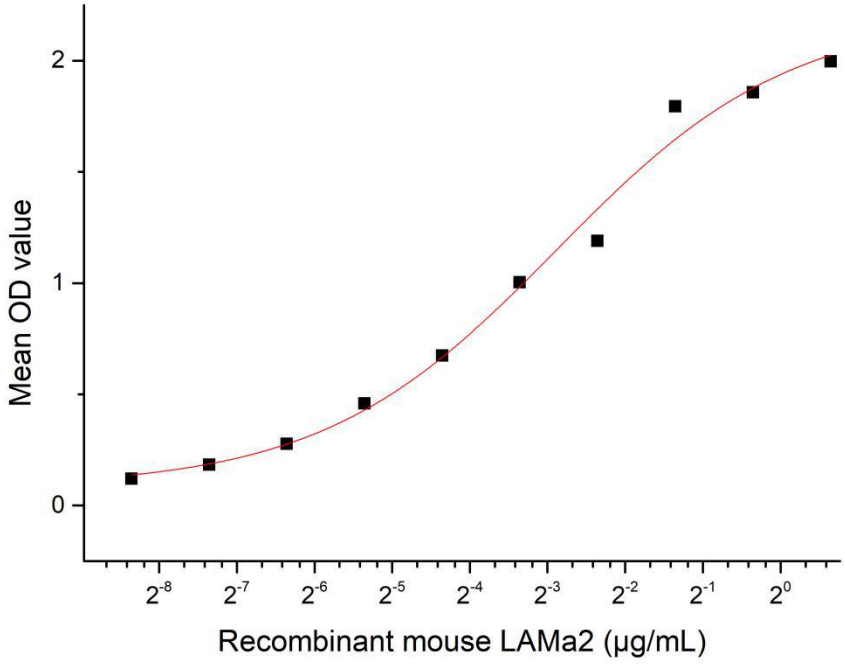

Figure 1. The binding activity of mouse LAMa2 and human LAMC2

[IDENTIFICATION]

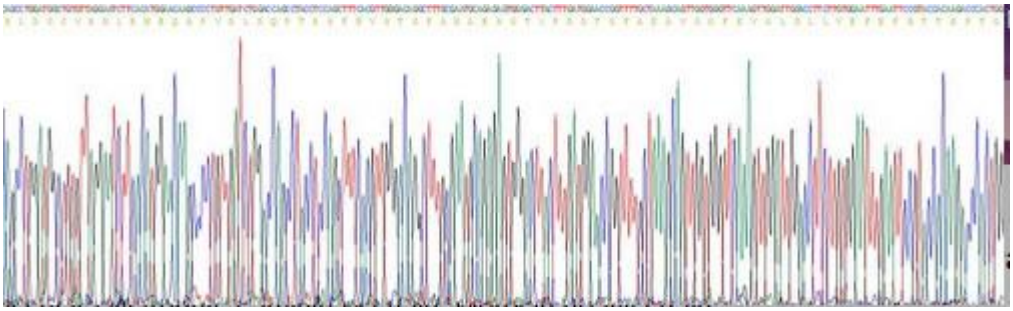

Figure 2. Gene Sequencing (extract)

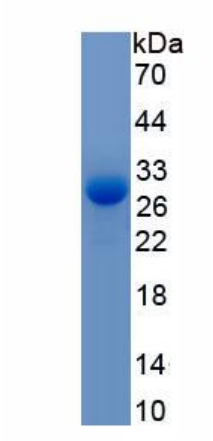

Figure 3. SDS-PAGE

Sample: Active recombinant LAMa2, 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.