

APA684Mu01 100µg
Active Mucin 5 Subtype B (MUC5B)
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: Ala75~Leu295

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% SKL, 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: 5.2

Predicted Molecular Mass: 27.9kDa

Accurate Molecular Mass: 31kDa 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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AHNGRV CSTWGFHYK TFDGDFRFP
GLCNYVFSSH CGATYEDFNI QLRRGLEGSR PTVTYVLLRA QGLVIELSNG
SVLVNGHREK LPYSRAGLLM EKSSGYVKIS IRLVLTFLWN EEDSALLELD
SKYINQTCGL CGDFNGLPAV SEFYTHNTRL TPVQFGNLQK LDGPTEQCQD
VLPSAVSNCT DTEDICRRTL LGPAFDKCTA LVDVSMYLDL CVQDL
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[ACTIVITY]

Mucin 5 subtype B, also known as MUC5B, is a high molecular weight glycoprotein that belongs to the mucin family. It is primarily found in the mucus lining of the respiratory tract, where it plays a crucial role in protecting the epithelial cells from pathogens and environmental damage. It is also expressed in other tissues such as the gastrointestinal tract and the female reproductive system. The protein is secreted by goblet cells and submucosal glands and forms a viscoelastic gel that contributes to the lubrication and barrier function of mucus. Besides, Mucin 13, Cell Surface Associated (MUC13) has been identified as an interactor of MUC5B, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant mouse MUC5B and recombinant human MUC13. Briefly, biotin-linked MUC5B were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to MUC13-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 μ l stop solution to the wells and read at 450nm immediately. The binding activity of MUC5B and MUC13 was shown in Figure 1, the EC50 for this effect is 3.58ug/mL.

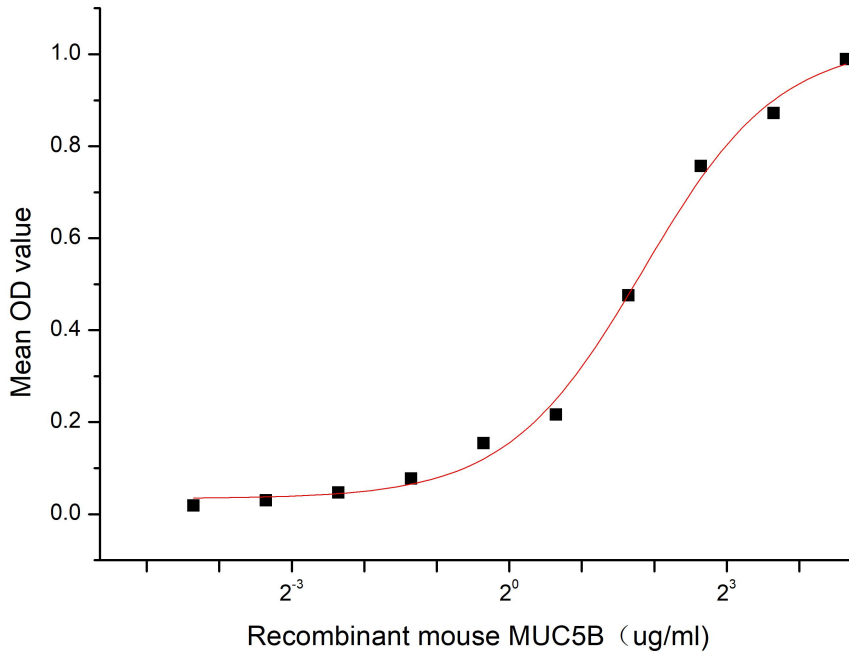


Figure 1. The binding activity of recombinant mouse MUC5B and recombinant human MUC13

[IDENTIFICATION]

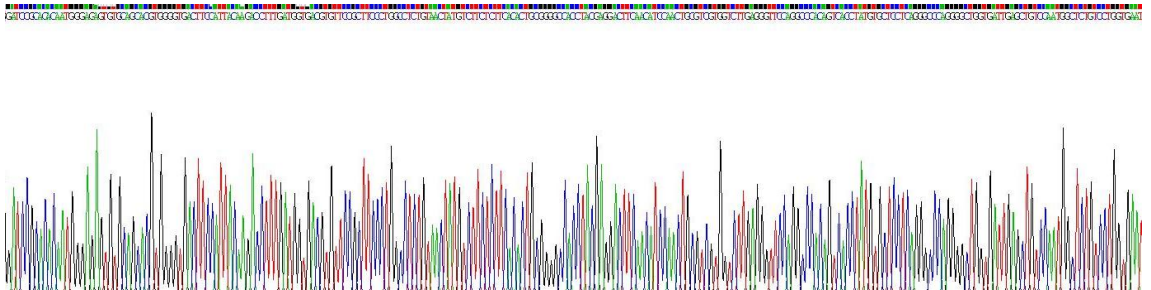


Figure 2. Gene Sequencing (extract)

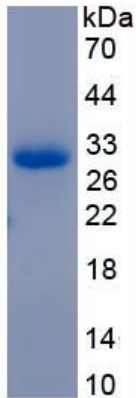


Figure 3. SDS-PAGE

Sample: Active recombinant MUC5B, 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.