APA677Mu61 100μg
Active Coagulation Factor XII (F12)
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: Eukaryotic expression.
Host: 293F cell
Residues: Ala20~Ser597
Tags: N-terminal His-tag
Purity: >95%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 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: 6.9
Predicted Molecular Mass: 65.3kDa
Accurate Molecular Mass: 110kDa 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]

A PPWKDSKKFK DAPDGPTVVL TVDGRLCHFP
FQYHRQLHHK CIHKRRPGSR PWCATTPNFD EDQQWGYCLE PKKVKDHCSK
HNPCHKGGTC INTPNGPHCL CPEHLTGKHC QKEKCFEPQL LKFFHENELW
FRTGPGGVAR CECKGSEAHC KPVASQACSI NPCLNGGSCL LVEDHPLCRC
PTGYTGYFCD LDLWATCYEG RGLSYRGQAG TTQSGAPCQR WTVEATYRNM
TEKQALSWGL GHHAFCRNPD NDTRPWCFVW SGDRLSWDYC GLEQCQTPTF
APLVVPESQE ESPSQAPSLS HAPNDSTDHQ TSLSKTNTMG CGQRFRKGLS
SFMRVVGGLV ALPGSHPYIA ALYWGNNFCA GSLIAPCWVL TAAHCLQNRP
APEELTVVLG QDRHNQSCEW CQTLAVRSYR LHEGFSSITY QHDLALLRLQ
ESKTNSCAIL SPHVQPVCLP SGAAPPSETV LCEVAGWGHQ FEGAEEYSTF
LQEAQVPFIA LDRCSNSNVH GDAILPGMLC AGFLEGGTDA CQGDSGGPLV
CEEGTAEHQL TLRGVISWGS GCGDRNKPGV YTDVANYLAW IQKHIAS

[ACTIVITY]

Coagulation factor XII (FXII), a S1A serine protease, is mainly produced in the liver and circulates in plasma as a single chain zymogen. F12 plays a role in initiating the contact activation pathway during clotting. When blood comes into contact with a foreign body, F12 is activated, initiating a series of reactions that eventually lead to the production of thrombin and the formation of fibrin, which promotes blood clotting. In addition, the combination of Plasminogen (Plg) with F12 can promote plasminogen activation and thus increase plasminogen

production, which plays an important role in thrombolysis and tissue repair. Thus a functional binding ELISA assay was conducted to detect the interaction of recombinant mouse F12 and recombinant human Plg. Briefly, biotin-linked F12 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 ul were then transferred to Plg-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 50 μl stop solution to the wells and read at 450 nm immediately. The binding activity of recombinant mouse F12 and recombinant human Plg was shown in Figure 1, and this effect was in a dose dependent manner.

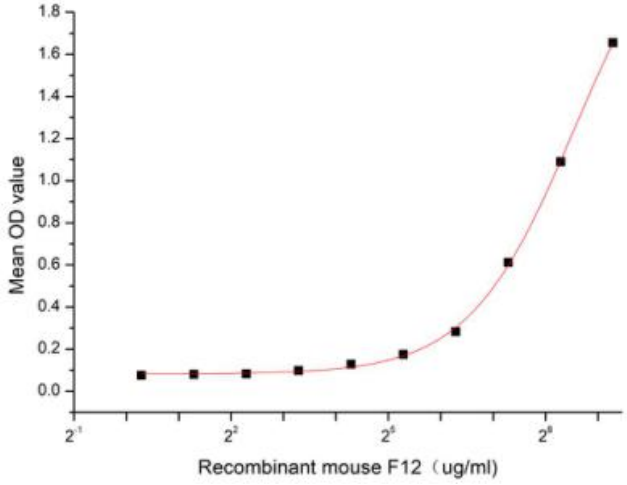

Figure 1. The binding activity of recombinant mouse F12 and recombinant human Plg

[IDENTIFICATION]

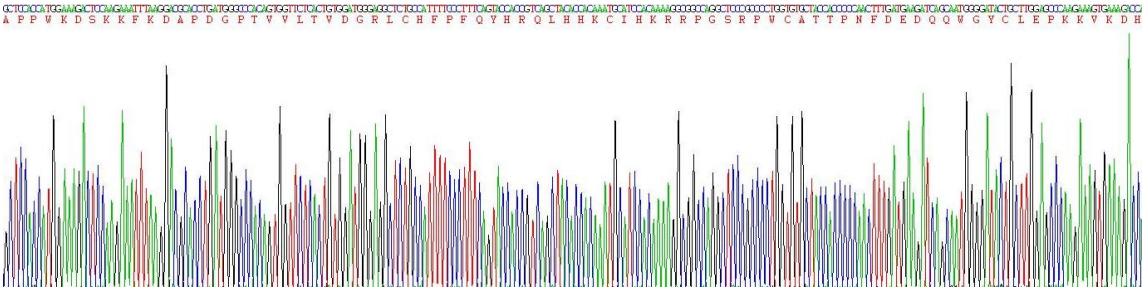

Figure 2. Gene Sequencing (extract)

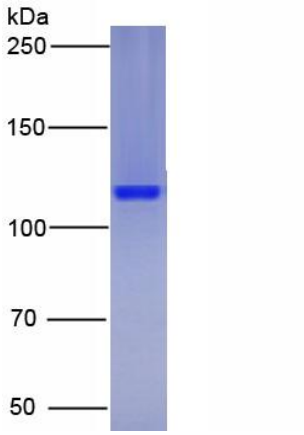

Figure 3. SDS-PAGE

Sample: Active recombinant F12, 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.