APC795Hu01 100μg
Active Transmembrane Protease, Serine 2 (TMPRSS2)
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: Ser284~Gly492
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% 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: 8.2
Predicted Molecular Mass: 27.0kDa
Accurate Molecular Mass: 27kDa 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 2-8ºC for one month.
Aliquot and store at -80ºC 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 37ºC 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]

SIITPEW IVTAAHCVEK
PLNNPWHWTA FAGILRQSFM FYGAGYQVEK VISHPNYDSK TKNNDIALMK
LQKPLTFNDL VKPVCLPNPG MMLQPEQLCW ISGWGATEEK GKTSEVLNAA
KVLLIETQRC NSRYVYDNLI TPAMICAGFL QGNVDSCQGD SGGPLVTSKN
NIWWLIGDTS WGSGCAKAYR PGVYGNVMVF TDWIYRQMRA DG

[ACTIVITY]

Transmembrane Protease, Serine 2 (TMPRSS2) is a type II transmembrane serine protease widely expressed in epithelial tissues, especially in the respiratory and gastrointestinal tracts. It plays critical roles in physiological processes like proprotein activation and tissue remodeling. Importantly, TMPRSS2 mediates viral entry by cleaving viral spike proteins, making it a key host factor in viral infections. TMPRSS2 binds to ACE2, facilitating the activation and entry of certain viruses into host cells.Thus a functional ELISA assay was conducted to detect the interaction of recombinant human TMPRSS2 and recombinant human ACE2. Briefly, TMPRSS2 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to ACE2-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-TMPRSS2 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, 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 450/630nm immediately. The binding activity of recombinant human TMPRSS2 and recombinant human ACE2 was shown in Figure 1, the EC50 for this effect is 2.14076μg/mL.

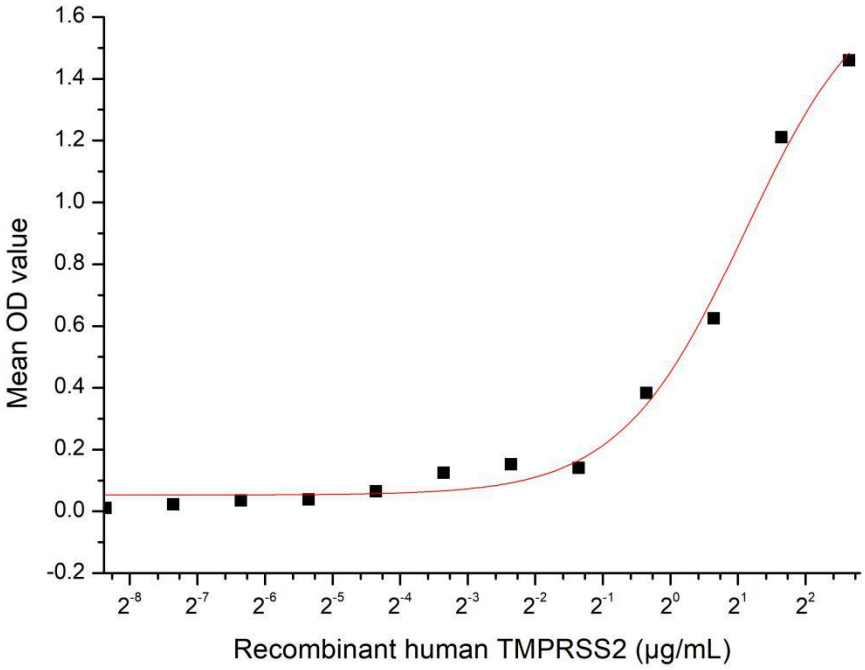


Figure 1. The binding activity of recombinant human TMPRSS2 and human ACE2

[IDENTIFICATION]

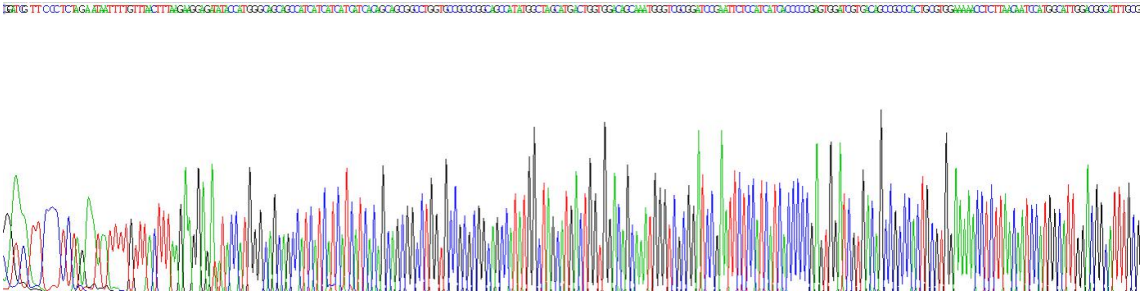


Figure 2. Gene Sequencing (extract)

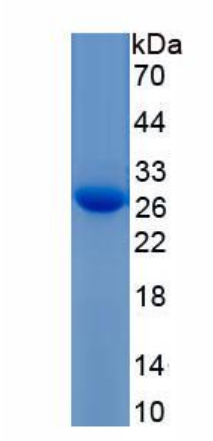


Figure 3. SDS-PAGE

Sample: Active recombinant TMPRSS2, 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.