

## TMPRSS11D Protein, Human (HEK293, His)

<b>Cat. No.:</b>	HY-P76680
<b>Synonyms:</b>	Transmembrane protease serine 11D; Airway trypsin-like protease; HAT
<b>Species:</b>	Human
<b>Source:</b>	HEK293
<b>Accession:</b>	O60235/NP_004253.1 (I187-I418)
<b>Gene ID:</b>	9407
<b>Molecular Weight:</b>	Approximately 27.6 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> I L G G T E A E E G   S W P W Q V S L R L   N N A H H C G G S L   I N N M W I L T A A H C F R S N S N P R   D W I A T S G I S T   T F P K L R M R V R   N I L I H N N Y K S A T H E N D I A L V   R L E N S V T F T K   D I H S V C L P A A   T Q N I P P G S T A Y V T G W G A Q E Y   A G H T V P E L R Q   G Q V R I I S N D V   C N A P H S Y N G A I L S G M L C A G V   P Q G G V D A C Q G   D S G G P L V Q E D   S R R L W F I V G I V S W G D Q C G L P   D K P G V Y T R V T   A Y L D W I R Q Q T   G I           </pre>
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	<p>TMPRSS11D Protein is implicated in potential biological roles within the host defense system on the mucous membrane, either independently or in collaboration with other substances in airway mucous or bronchial secretions. Notably, it plays a key role in the proteolytic processing of ACE2, contributing to the activation of the human coronavirus 229E (HCoV-229E) spike glycoprotein. This activation facilitates virus-cell membrane fusions, a crucial step in viral entry. TMPRSS11D's proteolytic activity on the spike glycoprotein involves cleaving the C-terminal side of arginine residues at the P1 position of specific peptides, with Boc-Phe-Ser-Arg-4-methylcoumaryl-7-amide being the most efficiently cleaved substrate. Its</p>
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enzymatic activity is optimal at a pH of 8.6 with this substrate. The protein is strongly inhibited by diisopropyl fluorophosphate, leupeptin, antipain, aprotinin, and soybean trypsin inhibitor, while showing minimal inhibition by secretory leukocyte protease inhibitor at 10 microM. These findings suggest that TMPRSS11D plays a multifaceted role in host defense and viral entry processes, highlighting its potential significance in the modulation of mucosal immunity and viral infections.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA