

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Trypsin 3/PRSS3 in direct ELISAs and Western blots. Detects both pro and mature forms of Trypsin 3 in Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (rh) Trypsin 1, 2, recombinant mouse Trypsin 3, or Chymotrypsin is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 420012
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Trypsin 3/PRSS3 Val16-Ser247 Accession # NP_002762
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	1 µg/mL	Recombinant Human Trypsin 3/PRSS3 (Catalog # 3710-SE)

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Human Trypsin 3, encoded by the PRSS3 gene, is also known as mesotrypsin (1). Constituting less than 10% of the total trypsin content in normal pancreatic juice, it is one of the three trypsin isoforms produced by the pancreas (2). Compared to Trypsin 1 and 2, one intriguing feature of Trypsin 3 is its resistance to polypeptide trypsin inhibitors, such as the Kunitz-type soybean trypsin inhibitor or the Kazal-type pancreatic secretory trypsin inhibitor. As revealed by the crystal structure, this resistance is likely due to the presence of an arginine residue in place of the highly conserved Gly198 (3). Trypsin 3 is synthesized in the pancreas and secreted into the duodenum lumen, where it is activated by enterokinase. One physiologic function of Trypsin 3 has been proposed to be degradation of trypsin inhibitors, which facilitates the digestion of those foods rich in these proteins (4). The amino acid sequence of human Trypsin 3 shares 76%, 74%, 72% and 67% identity with that of rat, mouse, dog and chicken, respectively.

### References:

1. Nyaruhucha, C.N.M. *et al.* (1997) J. Biol. Chem. **272**:10573.
2. Rinderknecht, H. *et al.* (1984) Gastroenterology **86**:681.
3. Katona, G. *et al.* (2002) J. Mol. Biol. **315**:1209.
4. Szmola, R. *et al.* (2003) J. Biol. Chem. **278**:48580.