Human Trypsin 3/PRSS3 Antibody

Monoclonal Rat IgG_{2A} Clone # 420025

Catalog Number: MAB3710

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Trypsin 3/PRSS3 in Western blots. In Western blots, no cross-reactivity with recombinant human (rh) Trypsin-1 or rhTrypsin-2 is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 420025
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Trypsin 3/PRSS3 Val16-Ser247 Accession # NP_002762
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

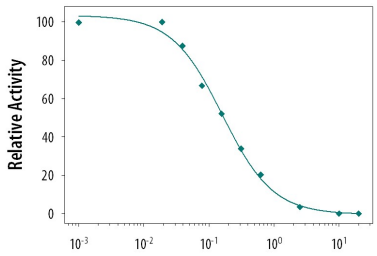
APPLICATIONS

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.*

Neutralization	Measured by its ability to neutralize Recombinant Human Active Trypsin 3/PRSS3 (0.03 µg/mL, Catalog # 3714-SE) cleavage of the fluorogenic peptide substrate Mca-RPKPVE-Nval-WRK(Dnp)-NH_2 (10 µM, Catalog # ES002). The Neutralization Dose (ND_{50}) is typically 0.15 µg/mL.

DATA

Neutralization



Neutralization of Trypsin 3/PRSS3 Activity by Human Trypsin 3/PRSS3 Antibody. The cleavage of Mca-RPKPVE-Nval-WRK(Dnp)-NH_2 (10 µM, Catalog # ES002) by Recombinant Human Active Trypsin 3/PRSS3 (0.03 µg/mL, Catalog # 3714-SE) is measured after preincubation with increasing concentrations of Rat Anti-Human Trypsin 3/PRSS3 Monoclonal Antibody (Catalog # MAB3710). The ND_{50} is typically 0.15 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 proposed physiological function of Trypsin 3 is degradation of trypsin inhibitors, which facilitates the digestion of those foods rich in these proteins (4).

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.

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