

Trypsin (H-101): sc-67387

BACKGROUND

The human pancreas secretes three different isoforms of the inactive trypsinogen into the small intestine, namely cationic trypsinogen, anionic trypsinogen (the two major isoforms) and mesotrypsinogen (a minor isoform). In the small intestine, each isoform is cleaved by Enterokinase into its active form, Trypsin-1, Trypsin-2 and Trypsin-3, respectively. All trypsins are members of the serine protease trypsin family. The activated trypsins go on to activate other protease zymogens and play a role in the autoactivation of trypsinogens. This suggests an important role for trypsins in digestion. Mutations in the gene encoding Trypsin-1 that stimulate its activity are associated with autosomal dominant hereditary pancreatitis (HCP), also known as chronic pancreatitis (CP), a disease characterized by persistent, severe abdominal pain due to calcifications of the parenchyma, pancreatic stones, cysts and pancreatic head enlargement. Trypsin-3, also known as Trypsin-4, is expressed in the brain in addition to the pancreas.

REFERENCES

1. Scheele, G., et al. 1981. Characterization of human exocrine pancreatic proteins by two-dimensional isoelectric focusing/sodium dodecyl sulfate gel electrophoresis. *Gastroenterology* 80: 461-473.
2. Rinderknecht, H., et al. 1984. Mesotrypsin: a new inhibitor-resistant protease from a zymogen in human pancreatic tissue and fluid. *Gastroenterology* 86: 681-692.
3. Kleeff, J., et al. 2000. Chronic pancreatitis: pathogenesis and molecular aspects. *Ann. Ital. Chir.* 71: 3-10.

SOURCE

Trypsin (H-101) is a rabbit polyclonal antibody raised against amino acids 39-140 mapping near the N-terminus of Trypsin-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Trypsin (H-101) is recommended for detection of Trypsin-1, Trypsin-2 and Trypsin-3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Trypsin-1: 23 kDa.

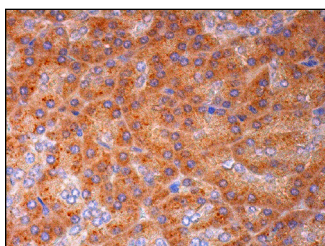
Molecular Weight of Trypsin-2: 26 kDa.

Molecular Weight of Trypsin-3: 32 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Trypsin (H-101): sc-67387. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells.

SELECT PRODUCT CITATIONS

1. Lam, D.K. and Schmidt, B.L. 2010. Serine proteases and protease-activated receptor 2-dependent allodynia: a novel cancer pain pathway. *Pain* 149: 263-272.
2. Löhr, J.M., et al. 2010. Autoantibodies against the exocrine pancreas in autoimmune pancreatitis: gene and protein expression profiling and immunoassays identify pancreatic enzymes as a major target of the inflammatory process. *Am. J. Gastroenterol.* 105: 2060-2071.
3. Lam, D.K., et al. 2012. Novel animal models of acute and chronic cancer pain: a pivotal role for PAR2. *J. Neurosci.* 32: 14178-14183.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **Trypsin (D-1): sc-137077**, our highly recommended monoclonal alternative to Trypsin (H-101). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Trypsin (D-1): sc-137077**.