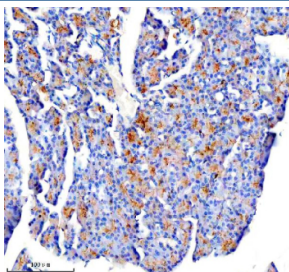


CTRC Antibody / Chymotrypsin C (FY12878)

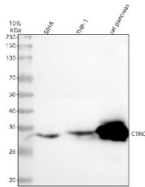
Catalog No.	Formulation	Size
FY12878	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

[Bulk quote request](#)

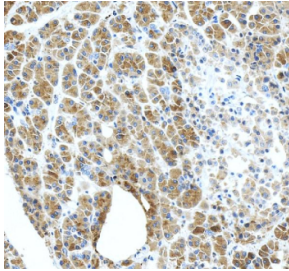
Availability	1-2 days
Species Reactivity	Human, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	Q99895
Localization	Cytoplasm, extracellular
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml
Limitations	This CTRC antibody is available for research use only.



Immunohistochemical staining of CTRC using anti-CTRC antibody. CTRC was detected in a paraffin-embedded section of rat pancreas tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CTRC antibody overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using an HRP secondary and DAB substrate.



Western blot analysis of CTIRC using anti-CTIRC antibody. Lane 1: human SiHa whole cell lysates, Lane 2: human THP-1 whole cell lysates, Lane 3: rat pancreas tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CTIRC antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. CTIRC western blot shows a predominant band at ~34 kDa, consistent with glycosylated chymotrypsin C migrating above its predicted ~29 kDa.



Immunohistochemical staining of CTIRC using anti-CTIRC antibody. CTIRC was detected in a paraffin-embedded section of human pancreas tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CTIRC antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.

Description

CTIRC antibody detects Chymotrypsin C, a digestive serine protease that regulates pancreatic enzyme activation and degradation. Encoded by the CTIRC gene on chromosome 1p36.21, this enzyme is secreted by pancreatic acinar cells and plays a dual role in digestive proteolysis and zymogen activation control. CTIRC contributes to the post-translational activation of trypsinogen and other pancreatic proteases while simultaneously degrading prematurely activated trypsin to prevent autodigestion and pancreatitis.

Structurally, Chymotrypsin C is synthesized as an inactive zymogen (chymotrypsinogen C) and activated by proteolytic cleavage in the small intestine. The mature enzyme is approximately 29 kilodaltons and contains a catalytic triad (His, Asp, Ser) characteristic of serine proteases. CTIRC exhibits substrate specificity distinct from other chymotrypsins, favoring cleavage after bulky hydrophobic residues and acting on peptide bonds within pancreatic proenzymes and regulatory proteins.

The CTIRC antibody is widely used in digestive biology, enzymology, and pancreatic disease research to study protease regulation, secretion, and zymogen activation. Western blot analysis detects a 29 kilodalton band corresponding to the active enzyme, while immunohistochemistry reveals cytoplasmic staining in pancreatic acinar cells. This antibody supports research on digestive enzyme control, pancreatitis pathogenesis, and exocrine pancreas physiology.

Mutations in CTIRC are associated with hereditary chronic pancreatitis and idiopathic pancreatic inflammation, where loss of enzyme function impairs trypsin degradation, leading to excessive intrapancreatic activation. CTIRC variants can also affect digestive efficiency and susceptibility to pancreatic stress. Beyond digestion, CTIRC influences the proteolytic processing of hormones and growth factors, expanding its role in systemic protease regulation. The CTIRC antibody provides a reliable tool for studying enzyme expression, activity regulation, and genetic variants linked to pancreatic disease. NSJ Bioreagents validates this antibody for its applications, ensuring accurate detection for digestive and enzymatic research.

Application Notes

Optimal dilution of the CTIRC antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human CTIRC was used as the immunogen for

theCTRC antibody.

Storage

After reconstitution, the CTRC antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.