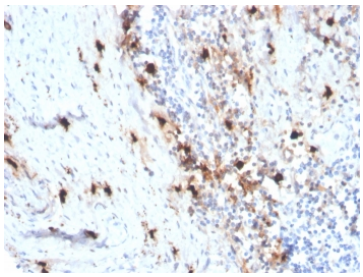
Recombinant TPSAB1 Antibody / Tryptase [clone rTPSAB1/1963] (V4428)

Catalog No.	Formulation	Size
V4428-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4428-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4428SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

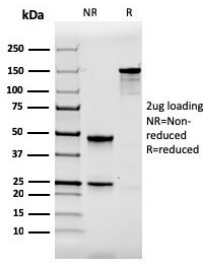
Recombinant MOUSE MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rTPSAB1/1963
Purity	Protein A/G affinity
UniProt	Q15661
Localization	Secreted, Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 minutes at RT
Limitations	This recombinant TPSAB1 antibody is available for research use only.



IHC staining of FFPE human tonsil tissue with recombinant TPSAB1 antibody (clone rTPSAB1/1963). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free recombinant TPSAB1 antibody (clone rTPSAB1/1963) as confirmation of integrity and purity.

Description

Recombinant TPSAB1 antibody detects Tryptase 1, a serine protease encoded by the TPSAB1 gene and abundantly expressed in mast cells. The UniProt recommended name is Tryptase alpha/beta-1 (TPSAB1). This enzyme represents a dominant effector molecule of mast cell activation, where it contributes to allergic inflammation, vascular regulation, and immune cell recruitment.

Tryptase 1 functions as a secreted tetrameric enzyme that depends on heparin for structural stability and enzymatic activity. Upon degranulation, mast cells release large quantities of tryptase into surrounding tissues, where it acts on extracellular matrix components, cytokines, and cell surface receptors. Through activation of protease-activated receptor 2 (PAR-2), tryptase triggers pro-inflammatory and tissue remodeling cascades that are hallmarks of allergic and fibrotic disease. It also influences wound healing and angiogenesis by modulating fibroblast and endothelial cell behavior.

The TPSAB1 gene resides on chromosome 16p13.3 within a tryptase gene cluster that includes TPSB2 and TPSG1. Its transcription is largely restricted to mast cells and basophils, where it supports granule maturation and regulated exocytosis. Both alpha and beta isoforms are produced, differing in catalytic stability but sharing similar biological functions. These isoforms contribute to interindividual variability in allergic sensitivity and baseline serum tryptase concentrations.

Clinically, TPSAB1 activity serves as a marker of mast cell activation. Elevated tryptase levels are characteristic of anaphylaxis, mastocytosis, and chronic allergic inflammation. Copy number variation of TPSAB1 underlies hereditary alpha-tryptasemia, a genetic condition associated with elevated serum tryptase and connective tissue symptoms. Research using Recombinant TPSAB1 antibody supports studies of mast cell degranulation, serine protease signaling, and inflammatory pathology.

Recombinant TPSAB1 antibody is designed for research use in detecting Tryptase 1 expression and investigating mast cell-related pathways. NSJ Bioreagents offers this antibody for use in allergy, immunology, and tissue remodeling research where precise detection of mast cell proteases is required.

Application Notes

Optimal dilution of the recombinant TPSAB1 antibody should be determined by the researcher.

Immunogen

A portion of amino acids 115-233 from the human protein was used as the immunogen for this recombinant TPSAB1 antibody.

Storage

Aliquot the recombinant TPSAB1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.