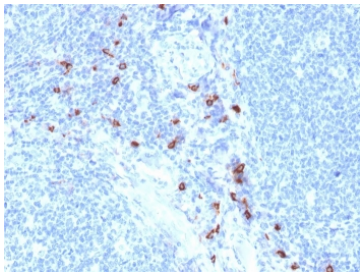
Mast Cell Tryptase Antibody / TPSAB1 [clone TPSAB1/1963] (V8138)

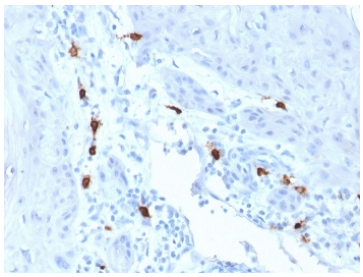
Catalog No.	Formulation	Size
V8138-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8138-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8138SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

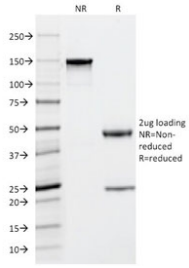
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	TPSAB1/1963
Purity	Protein G affinity chromatography
UniProt	Q15661
Localization	Cytoplasmic, secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This Mast Cell Tryptase antibody is available for research use only.



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



IHC staining of FFPE human skin with Mast Cell Tryptase antibody (clone TPSAB1/1963). 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 Mast Cell Tryptase antibody (clone TPSAB1/1963) as confirmation of integrity and purity.

Description

Mast Cell Tryptase antibody detects Tryptase alpha/beta-1, a mast cell-specific serine protease encoded by the TPSAB1 gene. The UniProt recommended name is Tryptase alpha/beta-1 (TPSAB1). This enzyme is the predominant protein component of mast cell granules and serves as a key mediator of allergic inflammation, immune defense, and tissue remodeling.

Functionally, Mast Cell Tryptase antibody identifies a secreted protease that exists as a heparin-stabilized tetramer within mast cell granules. Upon activation, mast cells release tryptase along with histamine and cytokines, amplifying inflammatory responses. Extracellular tryptase cleaves matrix proteins, vasoactive peptides, and receptors such as PAR-2, triggering smooth muscle contraction, vascular leakage, and leukocyte recruitment. Through these actions, TPSAB1 plays important roles in both acute hypersensitivity and chronic inflammatory diseases.

The TPSAB1 gene is located on chromosome 16p13.3 and belongs to a cluster of closely related tryptase genes. It encodes multiple isoforms, including both alpha and beta tryptase variants, which differ slightly in enzymatic properties but share mast cell-restricted expression. Expression is regulated by cytokines and immunologic stimuli, linking mast cell activation to innate and adaptive immune responses.

Clinically, tryptase is used as a biomarker of mast cell activation and is elevated in conditions such as anaphylaxis, mastocytosis, and allergic asthma. Increased baseline levels are characteristic of hereditary alpha-tryptasemia, a genetic trait caused by extra TPSAB1 gene copies. Research using Mast Cell Tryptase antibody supports investigations of mast cell biology, protease signaling, and allergic inflammation.

Mast Cell Tryptase antibody is suitable for research use in detecting tryptase protein expression and studying mast cell-mediated pathways. NSJ Bioreagents provides this antibody reagent for applications in allergy, immunology, and inflammatory disease research.

Application Notes

Optimal dilution of the Mast Cell Tryptase 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 Mast Cell Tryptase antibody.

Storage

Store the Mast Cell Tryptase antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).