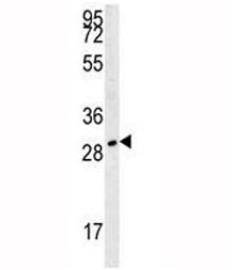
TPSAB1 Antibody / Tryptase 1 / Mast Cell Tryptase (F40073)

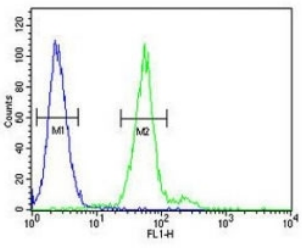
Catalog No.	Formulation	Size
F40073-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F40073-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	Q15661
Applications	Western Blot : 1:1000 Flow Cytometry : 1:10-1:50
Limitations	This TPSAB1 antibody is available for research use only.



TPSAB1 antibody western blot analysis in 293 lysate.



TPSAB1 antibody flow cytometric analysis of 293 cells (green) compared to a negative control cell (blue). FITC-conjugated goat-anti-rabbit secondary Ab was used for the analysis.

Description

TPSAB1 antibody targets Tryptase 1 (TPSAB1), also called Mast Cell Tryptase, a serine protease that is highly expressed in mast cells and serves as a key mediator of allergic and inflammatory responses. Tryptase 1 is stored in secretory granules within mast cells and is released into the extracellular space upon cell activation and degranulation. The protein localizes primarily to mast cell granules under resting conditions, with extracellular activity following release, where it can cleave a variety of substrates involved in inflammation, tissue remodeling, and immune signaling. TPSAB1 is a member of the tryptase family of serine proteases, which are characterized by their trypsin-like catalytic activity.

Functionally, Tryptase 1 contributes to multiple aspects of inflammatory and immune regulation. Upon release, TPSAB1 can activate protease-activated receptors, degrade extracellular matrix components, and modulate the activity of cytokines and growth factors. These actions influence vascular permeability, leukocyte recruitment, and tissue responses during allergic reactions and inflammation. TPSAB1 expression is largely restricted to mast cells, making it a widely used marker of mast cell presence and activation. A TPSAB1 antibody supports studies examining mast cell biology and inflammatory mechanisms.

TPSAB1 plays an important role in both acute and chronic inflammatory conditions. Elevated levels of mast cell tryptase are associated with allergic disease, asthma, anaphylaxis, and other mast cell-driven disorders. Beyond classical allergy, TPSAB1 activity has been implicated in fibrosis, angiogenesis, and tissue remodeling, reflecting broader roles for mast cell proteases in shaping local tissue environments. A TPSAB1 antibody enables investigation of tryptase expression and distribution in inflammatory and disease-related contexts.

From a biological and disease-relevance perspective, TPSAB1 is extensively studied as a diagnostic and research marker of mast cell activation. Measurement of tryptase levels is commonly used to assess mast cell involvement in systemic allergic reactions. Understanding TPSAB1 expression and regulation provides insight into mast cell-mediated immune responses and the protease-driven mechanisms that contribute to inflammation and tissue change.

At the molecular level, TPSAB1 is encoded by the TPSAB1 gene and produces a protein of approximately 275 amino acids that undergoes proteolytic processing to generate the active enzyme. The mature protease forms stable tetrameric complexes that enhance enzymatic stability and activity. Regulation of TPSAB1 expression and release is tightly linked to mast cell differentiation and activation status. A TPSAB1 antibody supports research applications focused on mast cell function, inflammatory signaling, and immune-mediated tissue responses, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Titration of the TPSAB1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 61-87 from the human protein was used as the immunogen for this TPSAB1 antibody.

Storage

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