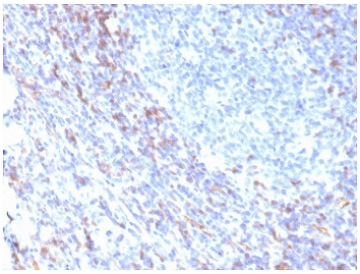
ZAP70 Antibody / T-cell Receptor Signaling Antibody [clone rZAP70/2046] (V8476)

Catalog No.	Formulation	Size
V8476-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8476-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8476SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

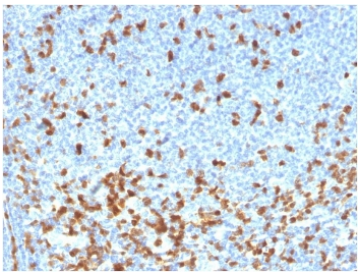
Recombinant MOUSE MONOCLONAL

Bulk quote request

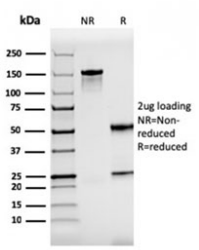
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rZAP70/2046
Purity	Protein G affinity chromatography
UniProt	P43403
Localization	Cell surface, cytoplasmic
Applications	ELISA: 2-4ug/ml for coating (order Ab without BSA) Immunohistochemistry (FFPE): 1-2ug/ml for 30 minutes at RT
Limitations	This ZAP70 antibody is available for research use only.



ZAP70 Antibody / T-cell Receptor Signaling Antibody. Immunohistochemistry analysis of formalin-fixed, paraffin-embedded human tonsil tissue using ZAP70 Antibody / T-cell Receptor Signaling Antibody. Antigen retrieval was performed by boiling sections in pH 9 Tris-EDTA buffer for 20 minutes followed by cooling. Cytoplasmic HRP-DAB brown staining is observed in lymphoid cells within tonsillar tissue, consistent with Zeta-chain-associated protein kinase 70 (ZAP70) expression in T lymphocytes and its established role in T-cell receptor signaling. The staining highlights lymphocyte-rich regions and supports use of ZAP70 as a marker of receptor-mediated immune signaling within lymphoid tissue architecture.



ZAP70 Antibody / T-cell Receptor Signaling Antibody. Immunohistochemistry analysis of formalin-fixed, paraffin-embedded human lymphoma tissue using ZAP70 Antibody / T-cell Receptor Signaling Antibody. Antigen retrieval was performed by boiling sections in pH 9 Tris-EDTA buffer for 20 minutes followed by cooling. Cytoplasmic HRP-DAB brown staining is observed in malignant lymphoid cells and surrounding lymphocyte populations, consistent with Zeta-chain-associated protein kinase 70 (ZAP70) expression in lymphoid-derived cells and its role in T-cell receptor signaling. The staining pattern highlights tumor-associated lymphoid cells and supports the use of ZAP70 for evaluating receptor-mediated signaling within lymphoma tissue architecture.



SDS-PAGE analysis of purified, BSA-free recombinant ZAP70 antibody as confirmation of integrity and purity.

Description

Zeta-chain-associated protein kinase 70 (ZAP70) is a cytoplasmic tyrosine kinase that functions as a central regulator of T-cell receptor signaling in adaptive immunity. ZAP70 Antibody is uniquely positioned for studying T-cell receptor signaling pathways, where it serves as a critical mediator linking antigen recognition at the cell surface to intracellular signaling cascades. ZAP70 antibody, also referred to as Zeta-chain-associated protein kinase 70 antibody or ZAP-70 antibody in the literature, is widely used to investigate receptor-proximal signaling events that define T-cell activation.

ZAP70 is recruited to the T-cell receptor complex immediately following antigen engagement, where it binds phosphorylated immunoreceptor tyrosine-based activation motifs on the CD3 complex. This interaction represents one of the earliest intracellular steps in T-cell receptor signaling and initiates downstream phosphorylation cascades involving adaptor proteins such as LAT and SLP-76. These events lead to activation of transcription factors that regulate T-cell proliferation, differentiation, and effector function. Because of its position at the top of the signaling cascade, ZAP70 is a key determinant of signaling strength and activation thresholds.

This ZAP70 Antibody is uniquely positioned for mechanistic studies focused specifically on T-cell receptor signaling initiation, rather than broader signaling networks or downstream activation effects. Its use supports investigation of receptor engagement dynamics, signaling thresholds, and early pathway activation events that govern immune responsiveness. This clear receptor-proximal focus differentiates it from pages centered on general signal transduction, kinase regulation, or disease-associated signaling changes.

ZAP70 also contributes to signaling in natural killer cells, where it participates in receptor-mediated activation pathways that regulate cytotoxic responses. However, its best-characterized and most widely studied role remains within T-cell receptor signaling, making it a foundational molecule for understanding adaptive immune activation. Detection of ZAP70 enables researchers to examine how antigen recognition is translated into intracellular signaling responses at the earliest stages of immune activation.

In experimental systems, ZAP70 is frequently studied in T-cell-derived models such as Jurkat cells, where it serves as a key readout for receptor-mediated signaling. Its activity reflects the integrity of T-cell receptor signaling pathways and provides insight into how upstream receptor events influence downstream cellular outcomes. Overall, ZAP70 Antibody provides a highly specific tool for studying T-cell receptor signaling, enabling detailed investigation of receptor-proximal signaling mechanisms, pathway initiation, and immune activation at the molecular level.

Application Notes

Optimal dilution of the ZAP70 Antibody / T-cell Receptor Signaling Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 247-382 from the human protein was used as the immunogen for the ZAP70 Antibody / T-cell Receptor Signaling Antibody.

Storage

Store the recombinant ZAP70 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

ZAP70 antibody, Zeta-chain-associated protein kinase 70 antibody, ZAP70 TCR signaling antibody, ZAP70 T-cell receptor antibody, ZAP70 immune signaling antibody

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