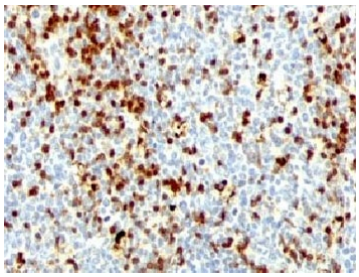
ZAP70 Antibody / Lymphocyte Differentiation and Effector Programming Antibody [clone ZTP70-1] (V7156)

Catalog No.	Formulation	Size
V7156-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7156-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7156SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V7156IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	ZTP70-1
Purity	Protein G affinity chromatography
UniProt	P43403
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT (1) Prediluted IHC Only Format : incubate for 30 min at RT (2)
Limitations	This ZAP70 antibody is available for research use only.



ZAP70 Antibody / Lymphocyte Differentiation and Effector Programming Antibody. Immunohistochemistry analysis of formalin-fixed, paraffin-embedded human tonsil tissue using ZAP70 Antibody / Lymphocyte Differentiation and Effector Programming Antibody (clone ZTP70-1). Cytoplasmic HRP-DAB brown staining is observed in lymphoid cell populations within tonsillar follicles and interfollicular regions, with heterogeneous staining intensity across cells. This pattern is consistent with Zeta-chain-associated protein kinase 70 (ZAP70) expression and reflects differences in signaling states associated with lymphocyte differentiation and effector programming. The distribution highlights subsets of lymphocytes undergoing distinct functional specialization, supporting the role of ZAP70 in shaping immune cell fate within lymphoid tissue architecture.

Description

Zeta-chain-associated protein kinase 70 (ZAP70) is a cytoplasmic tyrosine kinase that plays a central role in lymphocyte differentiation and effector programming by regulating how T cells develop into specialized functional subsets. ZAP70 Antibody is uniquely positioned for studying lymphocyte differentiation signaling, where variations in signaling strength, duration, and context determine long-term T-cell fate decisions. ZAP70 antibody, also referred to as Zeta-chain-associated protein kinase 70 antibody or ZAP-70 antibody, is widely used to investigate how intracellular signaling pathways drive immune cell specialization.

Following activation, T cells undergo differentiation into multiple effector and memory subsets, including helper T cells, cytotoxic T cells, and regulatory T cells. ZAP70-mediated signaling plays a key role in shaping these outcomes by influencing transcriptional programs that define cell identity and function. Differences in signaling intensity and duration transmitted through ZAP70 can direct cells toward distinct differentiation pathways, making it a central regulator of immune cell fate.

This ZAP70 Antibody is uniquely positioned for studying differentiation and effector programming, with emphasis on long-term functional outcomes rather than immediate signaling events, activation thresholds, or signal amplification. Its use supports investigation of how early signaling events are translated into stable phenotypic changes that define immune cell subsets. This differentiator clearly separates it from cytotoxic signaling pages that focus on effector function execution and from activation-focused pages that emphasize short-term responses.

ZAP70-driven signaling influences lineage commitment, effector specialization, and development of immunological memory. These processes are essential for adaptive immunity, allowing the immune system to generate targeted responses and long-term protection. Disruption of these signaling pathways can alter immune cell differentiation and impact immune function.

In experimental systems, lymphocyte differentiation can be studied by stimulating T cells under defined cytokine and activation conditions, with ZAP70 serving as a key indicator of signaling pathways that influence cell fate decisions. Detection of ZAP70 enables researchers to examine how intracellular signaling contributes to the development of specialized immune cell populations and how differentiation programs are established.

Overall, ZAP70 Antibody provides a focused tool for investigating lymphocyte differentiation and effector programming, enabling detailed study of immune cell fate determination, signaling-driven specialization, and the molecular mechanisms that shape adaptive immune responses.

Application Notes

Titering of the ZAP70 Antibody / Lymphocyte Differentiation and Effector Programming Antibody may be required for optimal performance.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9, for 10-20 min

followed by cooling at RT for 20 min.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Recombinant full-length human protein was used as the immunogen for the ZAP70 Antibody / Lymphocyte Differentiation and Effector Programming Antibody.

Storage

Store the 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 lymphocyte differentiation antibody, ZAP70 effector programming antibody, ZAP70 T-cell fate antibody