

PRODUCT INFORMATION



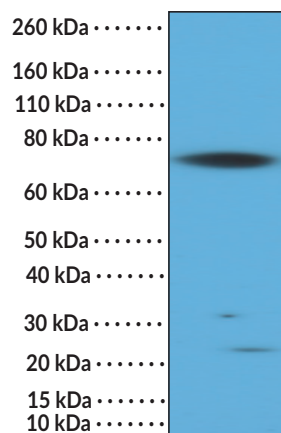
ZAP-70 (N-Term) Rabbit Monoclonal Antibody (RM408)

Item No. 32334

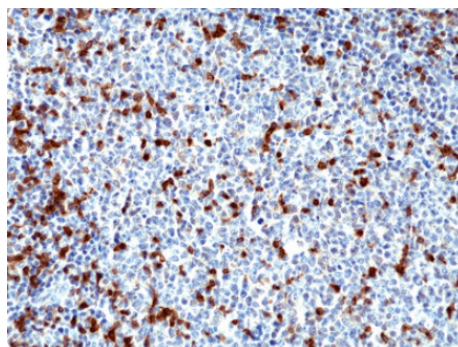
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Immunogen:	Peptide from the N-terminal region of human ZAP-70
Cross Reactivity:	(+) ZAP-70
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM408
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for IHC is 1:100-1:200 and 1:500-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of Jurkat cell lysate using ZAP-70 (N-Term) Rabbit Monoclonal Antibody (RM408) at a 1:500 dilution.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue using ZAP-70 (N-Term) Rabbit Monoclonal Antibody (RM408) at a 1:200 dilution.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

ZAP-70 is a tyrosine kinase that mediates T cell receptor (TCR) signaling.¹ It is composed of two tandem Src homology 2 (SH2) domains, which are critical for TCR-mediated intracellular signal transduction, a linker region containing numerous tyrosine residues subject to phosphorylation, and a kinase domain. ZAP-70 is expressed mainly by T cells and natural killer (NK) cells but is also expressed by certain subsets of malignant B cells.² Following TCR stimulation, ZAP-70 is recruited from the cytoplasm to phosphorylated TCR ζ chain immunoreceptor tyrosine-based activation motifs (ITAMs), where it is phosphorylated and activated by the tyrosine kinase LCK.^{1,3} ZAP-70 phosphorylates the adaptor proteins LAT and SLP-76, which activate a variety of intracellular signaling pathways that lead to T cell activation, proliferation, and differentiation.^{1,3} ZAP70 loss-of-function mutations are associated with ZAP-70 deficiency, a SCID characterized by the absence of functional T cells and recurrent infections.^{1,4} Cayman's ZAP-70 (N-Term) Rabbit Monoclonal Antibody (RM408) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Wang, H., Kadlecsek, T.A., Au-Yeung, B.B., *et al.* ZAP-70: An essential kinase in T-cell signaling. *Cold Spring Harb. Perspect. Biol.* **2**(5), a002279 (2010).
2. Chen, J., Moore, A., and Ringshausen, I. ZAP-70 shapes the immune microenvironment in B cell malignancies. *Front Oncol.* **10**, 595832 (2020).
3. Au-Yeung, B.B., Shah, N.H., Shen, L., *et al.* ZAP-70 in signaling, biology, and disease. *Annu. Rev. Immunol.* **36**, 127-156 (2018).
4. Sharifinejad, N., Jamee, M., Zaki-Dizaji, M., *et al.* Clinical, immunological, and genetic features in 49 patients with ZAP-70 deficiency: A systematic review. *Front Immunol.* **11**, 831 (2020).