

PRODUCT INFORMATION



CD5 (N-Term) Rabbit Monoclonal Antibody (Clone RM354)

Item No. 32284

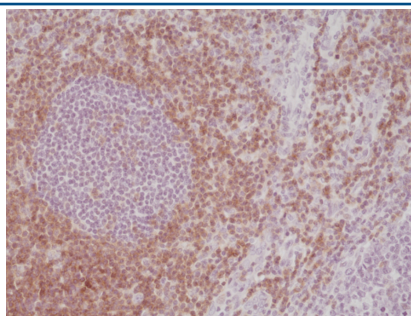
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	Cluster of Differentiation 5, Leu-1, Ly-1 Antigen, Lyt-1
Immunogen:	Peptide from the N-terminal region of human CD5
Cross Reactivity:	(+) CD5
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:	RM354
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:200-1:500 for IHC and 1:10,000-1:25,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

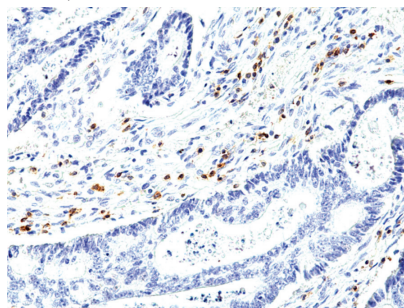
Images



WB of Jurkat cell lysates using CD5 (N-Term) Rabbit Monoclonal Antibody (Clone RM354) at a dilution of 1:25,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue using CD5 (N-Term) Rabbit Monoclonal Antibody (Clone RM354) at a dilution of 1:500.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human colon cancer using CD5 (N-Term) Rabbit Monoclonal Antibody (Clone RM354) at a dilution of 1:1,000.

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
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

CD5 is a type I transmembrane glycoprotein receptor and member of the scavenger receptor cysteine-rich (SRCR) superfamily.¹ It is composed of three extracellular cysteine-rich domains, a transmembrane region, and a cytoplasmic tail containing an imperfect immunoreceptor tyrosine-based activating motif (ITAM). CD5 is expressed at differing levels on mature CD4⁺ and CD8⁺ T cells and thymocytes, and at lower levels on B1a cells and B cell chronic lymphocytic leukemia (B-CLL) cells.² It acts a negative regulator of T cell signaling, despite the presence of an ITAM, and has a role in promoting the survival of thymocytes and mature T cells. CD5⁺ B cells are at their highest levels during development, lowest during early adulthood, and increase in middle-to-late adulthood, a change that correlates with an increased incidence of B-CLL and mantle cell lymphoma (MCL).³ CD5⁺ B cells primarily have a follicular mantle phenotype and produce low affinity polyreactive antibodies. CD5 expression on T cells protects against experimental autoimmune encephalomyelitis (EAE) in mice, but the levels of CD5⁺ B cells are increased in patients with systemic lupus erythematosus (SLE).^{4,5} CD5 has a complex role in cancer, with high levels of CD5 on tumor-infiltrating T cells (TILs) protecting TILs from apoptosis, but reduced CD5 levels on TILs enhancing CD8⁺ T cell-mediated lysing of malignant cells.⁴ CD5 has commonly been used as a marker of T cells, B1a cells, and B-CLL cells.² Cayman's CD5 (N-Term) Rabbit Monoclonal Antibody (Clone RM354) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Perez-Villar, J.J., Whitney, G.S., Bowen, M.A., *et al.* CD5 negatively regulates the T-cell antigen receptor signal transduction pathway: Involvement of SH2-containing phosphotyrosine phosphatase SHP-1. *Mol. Cell. Biol.* **19(4)**, 2903-2912 (1999).
2. Burgueño-Bucio, E., Mier-Aguilar, C.A., and Soldevila, G. The multiple faces of CD5. *J. Leukoc. Biol.* **105(5)**, 891-904 (2019).
3. Dono, M., Cerruti, G., and Zupo, S. The CD5+ B-cell. *Int. J. Biochem. Cell Biol.* **36(11)**, 2105-2111 (2004).
4. Dalloul, A. CD5: A safeguard against autoimmunity and a shield for cancer cells. *Autoimmun. Rev.* **8(4)**, 349-353 (2009).
5. Pers, J.-O., Jamin, C., Predine-Hug, F., *et al.* The role of CD5-expressing B cells in health and disease (review). *Int. J. Mol. Med.* **3(3)**, 239-245 (1999).

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