EXBIO Antibodies

PRODUCT DATA SHEET

11-204-C100

Monoclonal Antibody to CD5 Purified Antibody (0.1 mg)

Clone:	MEM-32
Isotype:	Mouse IgG1
Specificity:	The antibody MEM-32 reacts with the cell surface glycoprotein CD5, a 67kDa single-chain transmembrane glycoprotein expressed on mature T-lymphocytes, most of thymocytes and B-lymphocytes subset (B-1a lymphocytes). HLDA III; WS Code T 523
Regulatory Status:	RUO
Immunogen:	Crude thymus membrane fraction.
Species Reactivity:	Human
Application:	Flow Cytometry Recommended dilution: 2 µg/ml Immunoprecipitation Western Blotting Application note: Non-reducing conditions. Immunohistochemistry (paraffin sections) Recommended dilution: 20 µg/ml Positive tissue: spleen ELISA The antibody MEM-32 can be used in the Sandwich ELISA as the capture antibody in pair with the detection antibody CRIS1
Purity:	> 95% (by SDS-PAGE)
Purification:	Purified by protein-A affinity chromatography
Concentration:	1 mg/ml
Storage Buffer:	Phosphate buffered saline (PBS) with 15 mM sodium azide, approx. pH 7.4
Storage / Stability:	Store at 2-8°C. Do not freeze. Do not use after expiration date stamped on vial label.
Expiration:	See vial label
Lot Number:	See vial label

For laboratory research only, not for drug, diagnostic or other use.

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Background:

CD5 antigen (T1; 67 kDa) is a human cell surface T-lymphocyte single-chain transmembrane glycoprotein. CD5 is expressed on all mature T-lymphocytes, most of thymocytes, subset of B-lymphocytes and on many T-cell leukemias and lymphomas. It is a type I membrane glycoprotein whose extracellular region contains three scavenger receptor cysteine-rich (SRCR) domains.
The CD5 is a signal transducing molecule whose cytoplasmic tail is devoid of any intrinsic catalytic activity. CD5 modulates signaling through the antigen-specific receptor complex (TCR and BCR). CD5 crosslinking induces extracellular Ca++ mobilization, tyrosine phosphorylation of intracellular proteins and DAG production. Preliminary evidence shows protein associations with ZAP-70, p56lck, p59fyn, PC-PLC, etc. CD5 may serve as a dual receptor, giving either stimulatory or inhibitory signals depending both on the cell type and development stage. In thymocytes and B1a cells seems to provide inhibitory signals, in peripheral mature T lymhocytes it acts as a costimulatory signal receptor. CD5 is the phenotypic marker of a B cell subpopulation involved in the production of autoreactive antibodies.
Disease relevance: CD5 is a phenotypic marker for some B cell lymphoproliferative disorders (B-CLL, Hairy cell leukemia, etc.). The CD5+ popuation is expanded in some autoimmune disorders (Rheumatoid Arthritis, etc.). Herpes virus infections induce loss of CD5 expression in the expanded CD8+ human T cells.

References:

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*Horejsi V et al.: Monoclonal antibodies against human leucocyte antigens. I. Antibodies against beta-2-microglobulin, immunoglobulin kappa light chains, HLA-DR-like antigens, T8 antigen, T1 antigen, a monocyte antigen, and a pan-leucocyte antigen. Folia Biol. (Praha) 32, 12 (1986).
*Leukocyte Typing III., McMichael A. J. et al. (Eds.), Oxford University Press (1987).
*Hrdinka M, Dráber P, Stepánek O, Ormsby T, Otáhal P, Angelisová P, Brdicka T, Paces J, Horejsí V, Drbal K: PRR7 is a transmembrane adaptor protein expressed in activated T cells involved in regulation of T cell receptor signaling and apoptosis. J Biol Chem. 2011 Jun 3;286(22):19617-29.

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