Revision 1

Store at -20C

#77180

CLEC12A/CLL-1 (E8A3Z) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	55-75	Rabbit IgG	#Q5QGZ9	160364

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

CLEC12A/CLL-1 (E8A3Z) Rabbit mAb recognizes endogenous levels of total CLEC12A/CLL-1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human CLEC12A/CLL-1 protein.

Background

Part of the NK gene complex, C-type lectin-like molecule 1 (MICL/DCAL-2/CLL-1/CLEC12A) encodes a type-II transmembrane glycoprotein whose expression is largely restricted to hematopoietic cells of the myeloid lineage such as monocytes, macrophages, dendritic cells, and neutrophils (1-3). Research studies have shown that CLL-1 possesses a single C-type lectin-like domain within the extracellular domain and a single ITIM motif within its short cytoplasmic tail, which facilitates association with inhibitory SH2 domain-containing tyrosine phosphatases, SHP-1 and SHP-2. It is thought that signaling through the ITIM motif of CLL-1 facilitates inhibition of myeloid cell activation (1,2). By serving as a receptor for DAMPs that become exposed on dead cells, such as uric acid crystals, CLL-1 restrains pro-inflammatory immune responses that occur in response to cell death (4). In addition to being expressed on normal differentiated myeloid cells, research studies have also demonstrated expression of CLL-1 on the surface of malignant myeloid cells (5). As a result, CLL-1 has received significant attention as a potential novel therapeutic target for AML as its expression is absent from normal hematopoietic stem cells but is highly overexpressed on AML stem cells (5-9).

Background References

1. Marshall, A.S. et al. (2004) *J Biol Chem* 279, 14792-802.
2. Marshall, A.S. et al. (2006) *Eur J Immunol* 36, 2159-69.
3. Chen, C.H. et al. (2006) *Blood* 107, 1459-67.
4. Neumann, K. et al. (2014) *Immunity* 40, 389-99.
5. Bakker, A.B. et al. (2004) *Cancer Res* 64, 8443-50.
6. Jiang, Y.P. et al. (2018) *Blood Adv* 2, 1738-49.
7. Tashiro, H. et al. (2017) *Mol Ther* 25, 2202-13.
8. Wang, J. et al. (2018) *J Hematol Oncol* 11, 7.
9. Laborda, E. et al. (2017) *Int J Mol Sci* 18.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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