Mouse L1CAM Antibody

Monoclonal Rat IgG_{2A} Clone # 555

Catalog Number: MAB5674

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse L1CAM in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) ALCAM, rhBCAM, rhEPCAM, rhMCAM, rhNCAM, rhNCAM-L1, rhOBCAM, recombinant mouse (rm)MAdCAM-1, or rmOCAM is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 555
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse cerebellum-derived partially purified L1CAM
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

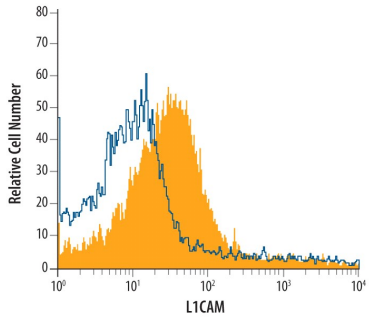
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Flow Cytometry	2.5 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Flow Cytometry



Detection of L1CAM in Mouse Splenocytes by Flow Cytometry.
Mouse splenocytes were stained with Rat Anti-Mouse L1CAM Monoclonal Antibody (Catalog # MAB5674, filled histogram) or isotype control antibody (Catalog # MAB006, open histogram), followed by Phycoerythrin-conjugated Anti-Rat IgG $F(ab')_2$ Secondary Antibody (Catalog # F0105B).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

L1CAM, also known as Neural Cell Adhesion Molecule L1 (NCAM-L1) and CD171, is a 200-220 kDa type I transmembrane glycoprotein of the immunoglobulin superfamily and L1/neurofascin/NgCAM family (1, 2). L1CAM is expressed by neurons, especially by growing axons on their growth cones (2). Non-neuronal cells such as Schwann cells, astrocytes, epithelial cells, and cells of myelomonocytic and lymphoid origin also express L1CAM (2). Mature mouse L1CAM consists of a 1104 amino acid (aa) extracellular domain (ECD) with 6 Ig-like domains and 5 fibronectin type-III domains, a 23 aa transmembrane region, and a 114 aa cytoplasmic tail (3). Mouse L1CAM shares 88% aa sequence identity with human L1CAM. L1CAM is critical for neural development. Specifically, L1CAM plays a key role in neuronal cell migration, axon outgrowth, axon fasciculation, synaptogenesis, and myelination (4). L1CAM mediates homophilic cell-cell interaction but also binds heterophilically with Axonin-1, CD24, CD9, Neurocan and several Integrins (4). L1CAM can undergo membrane-proximal cleavage by ADAM10 and ADAM17, leading to the release of the soluble ECD and the generation of a membrane-bound stub (4). The soluble ECD can serve as a substrate for integrin-mediated cell adhesion, thereby stimulating cellular motility and cell migration (4). L1CAM also plays a role in the ontogeny of human tumors, and its expression is linked to poor prognosis (1). Overexpression promotes tumor cell invasion and motility, growth in nude mice, and tumor metastasis (1). Proteolytic processing by ADAM10 and presenilin/γ-secretase is essential for the nuclear signaling of L1CAM in human carcinoma cell lines (1). Defects in L1CAM are the cause of the neurological MASA/CRASH syndrome (5, 6).

References:

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5. Kamiguchi, H. *et al.* (1998) Mol. Cell Neurosci. **12**:48.
6. Striha, L. *et al.* (2000) J. Child Neurol. **15**:239.

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