

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human L1CAM in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 84307
Purification	Protein A or G purified from ascites
Immunogen	Mouse myeloma cell line NS0-derived recombinant human L1CAM Met1-Glu1120 Accession # CAA42508
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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	0.25-1 µg/10 ⁶ cells	HeLa Human Cell Line

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

L1CAM (Neural cell adhesion molecule L1, also known as L1, CD171 and NCAM-L1) is a 200-230 kDa member of the L1 family, Immunoglobulin (Ig) superfamily of molecules. L1 is recognized to play a key role in cell migration, adhesion, neurite outgrowth, myelination and neuronal differentiation. It does so through a series of *cis* and *trans* interactions that involve multiple copartners and target receptors. L1 is described as forming both homotypic and heterotypic complexes, the latter with molecules as diverse as the EGFR, NCAM, CD24, neurocan and various α_v plus β_1 and β_3 integrins. Cells known to express L1 include immature oligodendrocytes, CD4+ T cells, B cells and monocytes, premyelinating Schwann cells, intestinal epithelial progenitor cells, and cerebellar granule plus Purkinje cells. Mature human L1 is a 1238 amino acid (aa) type I transmembrane protein. It contains an 1101 aa extracellular region (aa 20-1120) plus a 114 aa cytoplasmic domain (aa 1144-1257). The extracellular region possesses six C2-type Ig-like domains (aa 35-607) followed by five fibronectin (FN) type III repeats (aa 612-1108). The cytoplasmic tail contains no kinase motifs, but does possess a FIGQY peptide that interacts with ankyrin, and an RSLE sequence that mediates clathrin-associated endocytosis. At least five Ser residues are known to be phosphorylated. There are two splice variants, one each in the intracellular and extracellular domain. A deletion of RSLE (aa 1177-1180) adversely affects endocytosis, while a Leu substitution for aa 26-31 interferes with numerous heterotypic interactions. In general, the full-length L1 molecule is a neuron-associated isoform. L1 is known to undergo proteolysis, either by plasmin or ADAMs. This generates soluble isoforms of varying sizes (140-200 kDa) that retain bioactivity, and which can be incorporated into the surrounding ECM. The membrane fragments (30-80 kDa) undergo further processing, most importantly by γ -secretase, to generate a soluble 28 kDa intracellular domain. This domain is SUMOylated, and believed to possess an NLS at Lys1147. Upon presumed entry into the nucleus, L1 is posited to activate L1-responsive genes. In the extracellular region, human and mouse L1 share 86% aa sequence identity.

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