Recombinant Human LAMP Fc Chimera

Catalog Number: 873-LP

DESCRIPTION

Source

Spodoptera frugiperda, *Sf* 21 (baculovirus)-derived

Human LAMP (Val29 - Asn315) Accession # AAC50569	IEGRMD	Human IgG_1 (Pro100 - Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Val29
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	58.4 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	70-75 kDa, reducing conditions
Activity	Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic hippocampal neurons. Able to significantly enhance neurite outgrowth when immobilized at 10 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Supplied as a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 6 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after opening.

BACKGROUND

LAMP (limbic system-associated membrane protein) is a member of the IgLON (immunoglobulin LAMP, OBCAM and neurotrimin) subfamily within the Ig superfamily. All IgLON family members are glycosylphosphatidylinositol (GPI)-anchored neural cell adhesion molecules that are involved in cell-cell recognition and may have a role in mediating selective neuronal growth and axon targeting. LAMP cDNA encodes a 338 amino acid (aa) residues precursor protein containing a 28 aa N-terminal signal peptide, a 23 aa C-terminal propeptide and a 287 aa mature chain with 3 Ig-like C2-type domains and a GPI-anchor attachment site. In the developing brain, LAMP exhibits a specific pattern of expression in the cortical and subcortical limbic areas, which are important in cognition, emotion, memory, and learning. LAMP is also expressed in single layers of the superior colliculus, spinal chord and cerebellum. LAMP promotes adhesion and growth of limbic axons primarily via homophilic interaction and in part by modulating calcium influx through L-type calcium channels in limbic neurons. Heterophilic interactions between LAMP and neurotrimin have also been demonstrated. LAMP has been shown to inhibit the outgrowth of neurotrimin-expressing dorsal root ganglion neurons in a heterophilic manner. Antibody perturbation studies showed that LAMP is necessary for normal circuit formation in the limbic system, including the septo-hippocampal connection and hippocampal mossy fibers. LAMP acts as an attractive guidance signal for the limbic thalamic axons and can induce branch formation, but also acts as a repulsive axon guidance signal for nonlimbic thalamic axons (1 - 5).

References:

1. Pimenta, A.F. *et al.* (1995) Neuron, **15**:287.
2. Zhukareva, V. and P. Levitt (1995) Development **121**:1161.
3. Zhukareva, V. *et al.* (1997) Mol. Cell Neurosci. **10**:43.
4. Mann, F. *et al.* (1998) Journal Neurosci. **18**:9409.
5. Gil, O.D. *et al.* (2002) J. Neurobiol. **51**:190.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449