Data Sheet (Cat.No.TMPY-03818)

TargetMol

OPCML Protein, Mouse, Recombinant (His)

General Information

Synonyms:	opioid binding protein/cell adhesion molecule-like;C230027C17;3732419F12;Obcam; B930023M13Rik;2900075O15Rik;Gm181;AI844366
Protein Construction:	A DNA sequence encoding the mouse OPCML (NP_808574.2) (Ala5-Val313) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Thr 30
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q6DFY2
Molecular Weight:	32.7 kDa (predicted); 44-55 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	1. Measured by its binding ability in a functional ELISA. 2. Immobilized mouse OPCmL-His at 10μg/mL (100μL/well) can bind human LSAMP-Fc . The EC50 of human LSAMP-Fc is 0.04-0.1 μg/mL.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Opioid-binding Cell Adhesion Molecule (OBCAM), also known as OPCML, is a GPI-anchored cell adhesion molecule in the plasma membrane. This neuron-specific protein consists of three immunoglobulin (Ig)-like domains anchored to the membrane through a glycosylphosphatidylinositol (GPI)-tail. OPCML also belongs to the member

of the IgLON family, a subgroup of the immunoglobulin superfamily, consisting of three members, LAMP, OBCAM, and Neurotrimin. These molecules interact homophilically and heterophilically within the family, and OBCAM acts only as heterodimers with LAMP or Neurotrimin and possibly inhibits neurite outgrowth from cerebellar granule cells. The OBCAM has been presumed to play a role as a cell adhesion/recognition molecule. Furthermore, the OPCML protein defects may play an important role in the carcinogenesis of cervical or ovarian cancers, and this gene is regarded as a candidate TSG (tumor suppressor gene).

Reference

Hachisuka A, et al. (2000) Developmental expression of opioid-binding cell adhesion molecule (OBCAM) in rat brain. Brain Res Dev Brain Res. 122(2): 183-91.

Miyata S, et al. (2003) Polarized targeting of IgLON cell adhesion molecule OBCAM to dendrites in cultured neurons. Brain Res. 979(1-2): 129-36.

Yamada M, et al. (2007) Synaptic adhesion molecule OBCAM; synaptogenesis and dynamic internalization. Brain Res. 1165: 5-14.

Sugimoto C, et al. (2010) OBCAM, an immunoglobulin superfamily cell adhesion molecule, regulates morphology and proliferation of cerebral astrocytes. J Neurochem. 112(3): 818-28.