

## OPCML Protein, Rat, Recombinant (hFc)

### General Information

Synonyms:	opioid binding protein/cell adhesion molecule-like
Protein Construction:	A DNA sequence encoding the rat Opcml (NP_446300.1) (Met1-Val321) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Gly 28
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	P32736-1
Molecular Weight:	59 kDa (predicted)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % 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.

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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.

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481