

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human OBCAM on direct ELISAs and Western blots. In direct ELISAs and Western blots, this antibody does not cross-react with recombinant human (rh) ALCAM, rhBCAM, rhEpCAM, rhNCAM, recombinant mouse (rm) MAdCAM, rmOCAM, or rmNCAM-L1.
Source	Monoclonal Mouse IgG ₁ Clone # 341723
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human OBCAM Gly28-Asn322 Accession # Q14982
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% 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.

Western Blot Optimal dilution of this antibody should be experimentally determined.

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. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

OBCAM (Opioid-binding cell adhesion molecule, also known as OPCML) is a member of the IgLON family of cell adhesion molecules. All IgLONs are GPI-linked glycoproteins, contain three C2 type Ig-like domains, and are expressed in cerebral cortex and hippocampus (1, 2). The name IgLON derives from family membership in the **Ig** superfamily, and the first letters of the names of group's molecules; **L**AMP, **O**BCAM, and **N**eurotrimin. Recently, membership in the group has been expanded by one with the addition of Kilon (**K**indred of **IgLON**), and members of this group are now often referred to Diglons, based on the dimerizing nature of the **IgLONs** (1, 2). Human OBCAM is synthesized as a 345 amino acid (aa) preproprecursor that contains a 27 aa signal sequence, a 295 aa mature region, and a C-terminal 23 aa prosegment (3). The prosegment is cleaved to generate the GPI-link. OBCAM varies in molecular weight, ranging from 46 kDa to 65 kDa (4 - 6). The difference is not due to alternate splicing but to differential glycosylation (6). Although it is not unusual for GPI-linked proteins to be solubilized, to date there is no evidence that OBCAM functions as a soluble molecule (1). Mature human OBCAM is 98%, 99%, and 98% aa identical to mature bovine, rat and mouse OBCAM, respectively. OBCAM has limited expression, occurring principally in telencephalon and ovarian epithelium (7, 8). In brain, it is found associated with dendrites and post-synaptic membranes, where it may maintain synaptic architecture (1, 5). In ovary, it has been suggested to be a tumor-suppressor factor (8). The receptor(s) for OBCAM appears to be other members of the IgLON family, and a dimer is the functional unit. While neurotrimin appears to function as both a homodimer and heterodimer, all other family members (including OBCAM) show a preference for heterodimerization. OBCAM forms strong trans (between cells) heterodimers with LAMP, and modest heterodimers with Neurotrimin. There is hardly any binding with itself. Kilon likely binds OBCAM, but this interaction is not well studied (1). OBCAM heterodimers apparently bind to almost all possible IgLON heterodimer combinations on other cells. In cis (same cell), OBCAM also binds to LAMP and Neurotrimin (2).

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