Human OBCAM/OPCML Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2777

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human OBCAM/OPCML in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human (rh) KILON is observed and less than 1% cross-reactivity with rhLAMP is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human OBCAM/OPCML Gly28-Asn322 Accession # Q14982
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

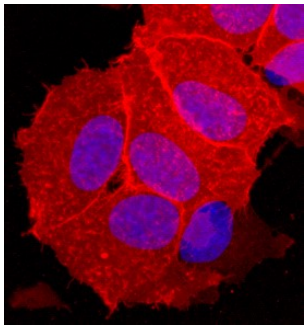
APPLICATIONS

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
Western Blot	0.1 µg/mL	Recombinant Human OBCAM (Catalog # 2777-CM)
Flow Cytometry	2.5 µg/10^6 cells	NG108-15 mouse neuroblastoma/rat glioma hybrid cell line
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	Immersion fixed paraffin-embedded sections of human brain (cortex)
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Immunocytochemistry



OBCAM/OPCML in MCF-7 Human Cell Line. OBCAM/OPCML was detected in immersion fixed MCF-7 human breast cancer cell line using Goat Anti-Human OBCAM/OPCML Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2777) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to cell surfaces. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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 (***Ki***ndred of Ig***LON***), and members of this group are now often referred to Diglons, based on the ***di***merizing nature of the ***IgLON***s (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).

References:

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7. Miyata, S. *et al.* (2003) Brain Res. **979**:129.
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