SANTA CRUZ BIOTECHNOLOGY, INC.

OMP (B-6): sc-365818

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The olfactory marker protein (OMP) has been shown to interact with the brain expressed X-linked genes BEX1 and BEX2. It is expressed in the cytoplasm of olfactory chemosensory neurons in the nasal neuroepithelium. OMP expression is a sign of mature vertebrate olfactory receptor neurons (ORNs). OMP RNA is synthesized in neuronal cell bodies in the epithelium and is then transported into axons and terminals in the olfactory bulb to be translated. OMP may have a modulatory role in the odor detection/signal transduction cascade. In fetal olfactory epithelial cells, OMP is also a potent enhancer of mitosis, and it promotes an increase in uptake of tritiated thymidine in liver. Deletion of the OMP gene causes a compromised ability to respond to odor stimuli and an elevation in behavioral threshold sensitivity.

CHROMOSOMAL LOCATION

Genetic locus: OMP (human) mapping to 11q13.5; Omp (mouse) mapping to 7 E2.

SOURCE

OMP (B-6) is a mouse monoclonal antibody raised against amino acids 1-163 representing full length OMP of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

OMP (B-6) is available conjugated to agarose (sc-365818 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365818 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365818 PE), fluorescein (sc-365818 FITC), Alexa Fluor® 488 (sc-365818 AF488), Alexa Fluor® 546 (sc-365818 AF546), Alexa Fluor® 594 (sc-365818 AF594) or Alexa Fluor® 647 (sc-365818 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365818 AF680) or Alexa Fluor® 790 (sc-365818 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

OMP (B-6) is recommended for detection of OMP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for OMP siRNA (h): sc-61260, OMP siRNA (m): sc-61261, OMP shRNA Plasmid (h): sc-61260-SH, OMP shRNA Plasmid (m): sc-61261-SH, OMP shRNA (h) Lentiviral Particles: sc-61260-V and OMP shRNA (m) Lentiviral Particles: sc-61261-V.

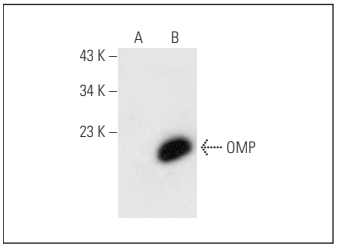
Molecular Weight of OMP: 19 kDa.

Positive Controls: mouse embryo extract: sc-364239, OMP (m): 293T Lysate: sc-127265 or mouse brain extract: sc-2253.

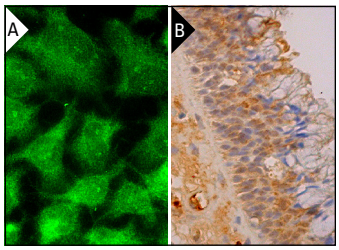
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



OMP (B-6): sc-365818. Western blot analysis of OMP expression in non-transfected: sc-117752 (**A**) and mouse OMP transfected: sc-127265 (**B**) 293T whole cell lysates.



OMP (B-6): sc-365818. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing cytoplasmic and nuclear staining of respiratory epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Xiong, S., et al. 2017. Differentiation of induced pluripotent stem cells for future olfactory repair using an indirect co-culture technique. Int. J. Clin. Exp. Pathol. 10: 8072-8081.
2. Bathini, P., et al. 2019. Progressive signaling changes in the olfactory nerve of patients with Alzheimer's disease. Neurobiol. Aging 76: 80-95.
3. Casadei, E., et al. 2019. Commensal bacteria regulate gene expression and differentiation in vertebrate olfactory systems through transcription factor REST. Chem. Senses 44: 615-630.
4. Choi, R., et al. 2019. Loss of BMI1 in mature olfactory sensory neurons leads to increased olfactory basal cell proliferation. Int. Forum Allergy Rhinol. 9: 993-999.
5. Goncalves, S. and Goldstein, B.J. 2020. Acute N-acetylcysteine administration ameliorates loss of olfactory neurons following experimental injury *in vivo*. Anat. Rec. 303: 626-633.
6. Brozzetti, L., et al. 2020. Neurodegeneration-associated proteins in human olfactory neurons collected by nasal brushing. Front. Neurosci. 14: 145.
7. Chen, M., et al. 2021. Enhancing GABAergic signaling ameliorates aberrant γ oscillations of olfactory bulb in AD mouse models. Mol. Neurodegener. 16: 14.
8. de Melo, G.D., et al. 2021. COVID-19-related anosmia is associated with viral persistence and inflammation in human olfactory epithelium and brain infection in hamsters. Sci. Transl. Med. 13: eabf8396.
9. Finlay, J.B., et al. 2022. Persistent post-COVID-19 smell loss is associated with immune cell infiltration and altered gene expression in olfactory epithelium. Sci. Transl. Med. 14: eadd0484.

RESEARCH USE

For research use only, not for use in diagnostic procedures.