SANTA CRUZ BIOTECHNOLOGY, INC.

OMG (E-8): sc-271704

The Power to Question

BACKGROUND

Oligodendrocyte myelin glycoprotein (OMG, OMgp) is a glycosylphosphatidylinositol-anchored protein expressed by neurons and oligodendrocytes that influences the development of the adult central nervous system (CNS). OMG inhibits neurite outgrowth through its interaction with the Nogo receptor. This function requires its leucine-rich repeat domain, a highly-conserved region in OMG that influences cell proliferation, formation and maintenance of myelin sheaths. OMG inhibits neurite outgrowth from rat cerebellar granule and hippocampal cells; from dorsal root ganglion explants in which growth cone collapse was observed; from rat retinal ganglion neurons; and from NG108 and PC-12 cells.

REFERENCES

1. Habib, A.A., et al. 1998. The OMgp gene, a second growth suppressor within the NF1 gene. Oncogene 16: 1525-1531.
2. Peters, N., et al. 1999. Quantitative analysis of NF1 and OMgp gene transcripts in sporadic gliomas, sporadic meningiomas and neurofibromatosis type 1-associated plexiform neurofibromas. Acta Neuropathol. 97: 547-551.
3. Wang, K.C., et al. 2002. p75 interacts with the Nogo receptor as a co-receptor for Nogo, MAG and OMgp. Nature 420: 74-78.
4. Kottis, V., et al. 2002. Oligodendrocyte myelin glycoprotein (OMgp) is an inhibitor of neurite outgrowth. J. Neurochem. 82: 1566-1569.
5. Vourc'h, P., et al. 2004. Oligodendrocyte myelin glycoprotein (OMgp): evolution, structure and function. Brain Res. Brain Res. Rev. 45: 115-124.
6. Bischof, F., et al. 2004. A structurally available encephalitogenic epitope of myelin oligodendrocyte glycoprotein specifically induces a diversified pathogenic autoimmune response. J. Immunol. 173: 600-606.

CHROMOSOMAL LOCATION

Genetic locus: OMG (human) mapping to 17q11.2; Omg (mouse) mapping to 11 B5.

SOURCE

OMG (E-8) is a mouse monoclonal antibody raised against amino acids 195-416 mapping near the C-terminus of OMG of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

OMG (E-8) is available conjugated to agarose (sc-271704 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271704 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271704 PE), fluorescein (sc-271704 FITC), Alexa Fluor® 488 (sc-271704 AF488), Alexa Fluor® 546 (sc-271704 AF546), Alexa Fluor® 594 (sc-271704 AF594) or Alexa Fluor® 647 (sc-271704 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271704 AF680) or Alexa Fluor® 790 (sc-271704 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

OMG (E-8) is recommended for detection of OMG 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for OMG siRNA (h): sc-42032, OMG siRNA (m): sc-42033, OMG shRNA Plasmid (h): sc-42032-SH, OMG shRNA Plasmid (m): sc-42033-SH, OMG shRNA (h) Lentiviral Particles: sc-42032-V and OMG shRNA (m) Lentiviral Particles: sc-42033-V.

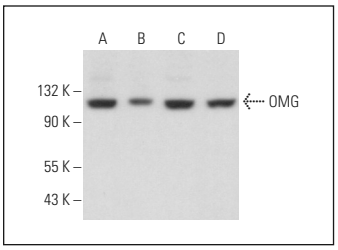
Molecular Weight of OMG: 120 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, NIH/3T3 whole cell lysate: sc-2210 or SK-N-MC cell lysate: sc-2237.

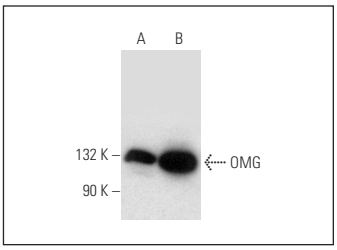
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



OMG (E-8): sc-271704. Western blot analysis of OMG expression in SH-SY5Y (**A**), EOC 20 (**B**), C2C12 (**C**) and C6 (**D**) whole cell lysates.



OMG (E-8): sc-271704. Western blot analysis of OMG expression in SK-N-MC (**A**) and NIH/3T3 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ohmichi, T., et al. 2019. Quantification of brain-derived extracellular vesicles in plasma as a biomarker to diagnose Parkinson's and related diseases. Parkinsonism Relat. Disord. 61: 82-87.

STORAGE

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

RESEARCH USE

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