SANTA CRUZ BIOTECHNOLOGY, INC.

OLIG2 (C-17): sc-19969

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The oligodendrocyte lineage-specific basic helix-loop-helix (OLIG) family of transcription factors include OLIG1-OLIG3, which differ in tissue expression. OLIG1 and OLIG2 are specifically expressed in nervous tissue as gene regulators of oligodendrogenesis. OLIG2 is more widely expressed in embryonic brain than OLIG1, while OLIG3 is primarily expressed in non-neural tissues. OLIG1 and OLIG2 interact with the Nkx-2.2 homeodomain protein, which is responsible for directing ventral neuronal patterning in response to graded sonic hedgehog signaling in the embryonic neural tube. These interactions between OLIG proteins and Nkx-2.2 appear to promote the formation of alternate cell types by inhibiting V3 interneuron development. OLIG1 and OLIG2 are abundantly expressed in oligodendroglioma and nearly absent in astrocytomas. Therefore, OLIG proteins are candidates for molecular markers of human glial brain tumors, which are the most common primary malignancies of the human brain.

CHROMOSOMAL LOCATION

Genetic locus: OLIG2 (human) mapping to 21q22.11; Olig2 (mouse) mapping to 16 C3.3.

SOURCE

OLIG2 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of OLIG2 of mouse origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19969 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

OLIG2 (C-17) is recommended for detection of OLIG2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

OLIG2 (C-17) is also recommended for detection of OLIG2 in additional species, including porcine.

Suitable for use as control antibody for OLIG2 siRNA (h): sc-38147, OLIG2 siRNA (m): sc-38148, OLIG2 shRNA Plasmid (h): sc-38147-SH, OLIG2 shRNA Plasmid (m): sc-38148-SH, OLIG2 shRNA (h) Lentiviral Particles: sc-38147-V and OLIG2 shRNA (m) Lentiviral Particles: sc-38148-V.

Molecular Weight of OLIG2: 30/40 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 cell lysate: sc-2227 or mouse brain extract: sc-2253.

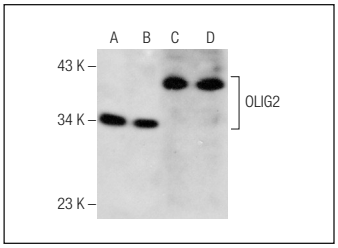
RESEARCH USE

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



OLIG2 (C-17): sc-19969. Western blot analysis of OLIG2 expression in Jurkat (**A**) and Hep G2 (**B**) whole cell lysates and rat brain (**C**) and mouse brain (**D**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Clase, A.C., et al. 2006. Oligodendrocytes are a major target of the toxicity of spongiogenic murine retroviruses. Am. J. Pathol. 169: 1026-1038.
2. Genethliou, N., et al. 2009. SOX1 links the function of neural patterning and Notch signalling in the ventral spinal cord during the neuron-glial fate switch. Biochem. Biophys. Res. Commun. 390: 1114-1120.
3. Sabourin, J.C., et al. 2009. A mesenchymal-like ZEB1^{+} niche harbors dorsal radial glial fibrillary acidic protein-positive stem cells in the spinal cord. Stem Cells 27: 2722-2733.
4. Desfeux, A., et al. 2010. Dual effect of glutamate on GABAergic interneuron survival during cerebral cortex development in mice neonates. Cereb. Cortex. 20: 1092-1108.
5. Hu, B.Y., et al. 2010. Directed differentiation of neural-stem cells and subtype-specific neurons from hESCs. Methods Mol. Biol. 636: 123-137.

STORAGE

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