

Opalin (E-8): sc-376128

BACKGROUND

Opalin, also known as HTMP10, oligodendrocytic myelin paranodal and inner loop protein or TMEM10 (transmembrane protein 10), is a 141 amino acid single-pass type I membrane protein that is expressed specifically in oligodendrocytes of brain. The gene encoding Opalin maps to human chromosome 10q24.1. Spanning nearly 135 million base pairs, chromosome 10 makes up approximately 4.5% of total DNA in cells and encodes nearly 1,200 genes. Several protein-coding genes, including those that encode for chemokines, cadherins, excision repair proteins, early growth response factors (Egrs) and fibroblast growth receptors (FGFRs), are located on chromosome 10. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie-Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

- Jabs, E.W., et al. 1994. Jackson-Weiss and Crouzon syndromes are allelic with mutations in fibroblast growth factor receptor 2. *Nat. Genet.* 8: 275-279.
- Nobile, C., et al. 2002. Identification and characterization of a novel human brain-specific gene, homologous to *S. scrofa* tmp83.5, in the chromosome 10q24 critical region for temporal lobe epilepsy and spastic paraplegia. *Gene* 282: 87-94.
- Berger, P., et al. 2002. Molecular cell biology of Charcot-Marie-Tooth disease. *Neurogenetics* 4: 1-15.
- Teresi, R.E., et al. 2007. Cowden syndrome-affected patients with PTEN promoter mutations demonstrate abnormal protein translation. *Am. J. Hum. Genet.* 81: 756-767.
- Aruga, J., et al. 2007. An oligodendrocyte enhancer in a phylogenetically conserved intron region of the mammalian myelin gene Opalin. *J. Neurochem.* 102: 1533-1547.

CHROMOSOMAL LOCATION

Genetic locus: Opalin (mouse) mapping to 19 C3.

SOURCE

Opalin (E-8) is a mouse monoclonal antibody raised against amino acids 1-143 representing full length Opalin of mouse origin.

PRODUCT

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

Opalin (E-8) is available conjugated to agarose (sc-376128 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376128 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376128 PE), fluorescein (sc-376128 FITC), Alexa Fluor[®] 488 (sc-376128 AF488), Alexa Fluor[®] 546 (sc-376128 AF546), Alexa Fluor[®] 594 (sc-376128 AF594) or Alexa Fluor[®] 647 (sc-376128 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376128 AF680) or Alexa Fluor[®] 790 (sc-376128 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Opalin (E-8) is recommended for detection of Opalin of mouse and rat 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).

Suitable for use as control antibody for Opalin siRNA (m): sc-151308, Opalin shRNA Plasmid (m): sc-151308-SH and Opalin shRNA (m) Lentiviral Particles: sc-151308-V.

Molecular Weight of Opalin: 16 kDa.

Molecular Weight of glycosylated Opalin: 34-39 kDa.

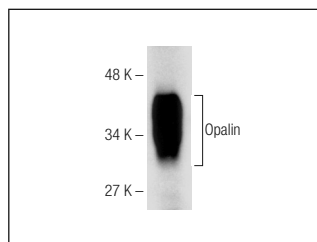
Positive Controls: mouse brain extract: sc-2253 or rat cerebellum extract: sc-2398.

RECOMMENDED SUPPORT REAGENTS

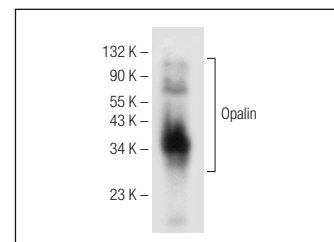
To ensure optimal results, the following support reagents are recommended:

- 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.
- Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 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



Opalin (E-8): sc-376128. Western blot analysis of glycosylated Opalin expression in rat cerebellum tissue extract.



Opalin (E-8): sc-376128. Western blot analysis of Opalin expression in mouse brain tissue extract.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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