

Optineurin (C-1): sc-271549

BACKGROUND

Optineurin, also designated FIP2, E3-14.7K-interacting protein, HYPL, transcription factor IIIA-interacting protein (TFIIIA-INTP), Huntingtin interacting protein L and NEMO-related protein, influences cell morphogenesis, membrane trafficking, vesicle trafficking and transcription activation through its interactions with the Rab8, Huntingtin and transcription factor IIIA proteins. Optineurin interacts with Adenovirus E3-14.7K protein and may utilize TNF α or FAS-ligand pathways to mediate apoptosis, inflammation or vasoconstriction. Optineurin mutations may impart normal-tension glaucoma and adult-onset primary open angle glaucoma. Optineurin is a 617 amino acid protein that contains leucine zippers and leucine-rich regions, and contains a potential Cys2-His-Cys zinc finger at residues 553-582. It localizes to the Golgi apparatus. RT-PCR studies indicate expression in human trabecular meshwork, nonpigmented ciliary epithelium, retina, brain, adrenal cortex, liver, fetus, lymphocyte and fibroblast. Northern blot studies indicate a 2.0 kb transcript in human trabecular meshwork and nonpigmented ciliary epithelium and a minor 3.6 kb transcript.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602432. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Rezaie, T., et al. 2005. Molecular cloning and expression profiling of Optineurin in the rhesus monkey. *Invest. Ophthalmol. Vis. Sci.* 46: 2404-2410.

CHROMOSOMAL LOCATION

Genetic locus: OPTN (human) mapping to 10p13; Optn (mouse) mapping to 2 A1.

SOURCE

Optineurin (C-1) is a mouse monoclonal antibody raised against amino acids 321-540 mapping near the C-terminus of Optineurin of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Optineurin (C-1) is available conjugated to agarose (sc-271549 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271549 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271549 PE), fluorescein (sc-271549 FITC), Alexa Fluor[®] 488 (sc-271549 AF488), Alexa Fluor[®] 546 (sc-271549 AF546), Alexa Fluor[®] 594 (sc-271549 AF594) or Alexa Fluor[®] 647 (sc-271549 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271549 AF680) or Alexa Fluor[®] 790 (sc-271549 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

Optineurin (C-1) is recommended for detection of Optineurin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

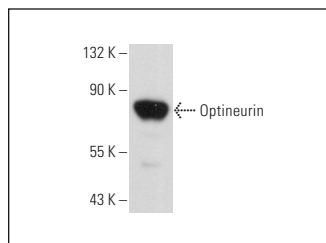
Optineurin (C-1) is also recommended for detection of Optineurin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Optineurin siRNA (h): sc-39054, Optineurin siRNA (m): sc-39055, Optineurin siRNA (r): sc-60013, Optineurin shRNA Plasmid (h): sc-39054-SH, Optineurin shRNA Plasmid (m): sc-39055-SH, Optineurin shRNA Plasmid (r): sc-60013-SH, Optineurin shRNA (h) Lentiviral Particles: sc-39054-V, Optineurin shRNA (m) Lentiviral Particles: sc-39055-V and Optineurin shRNA (r) Lentiviral Particles: sc-60013-V.

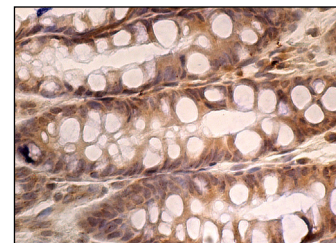
Molecular Weight of Optineurin: 74 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, Jurkat whole cell lysate: sc-2204 or WI-38 whole cell lysate: sc-364260.

DATA



Optineurin (C-1): sc-271549. Western blot analysis of Optineurin expression in WI-38 whole cell lysate.



Optineurin (C-1): sc-271549. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Tsai, P.C., et al. 2016. Mutational analysis of TBK1 in Taiwanese patients with amyotrophic lateral sclerosis. *Neurobiol. Aging* 40: 191.e11-191.e16.
2. Tanishima, M., et al. 2017. Identification of Optineurin as an interleukin-1 receptor-associated kinase 1-binding protein and its role in regulation of MyD88-dependent signaling. *J. Biol. Chem.* 292: 17250-17257.
3. Jin, L., et al. 2018. Co-expression network analysis of lncRNAs and mRNAs in OPTN-silenced cells. *Int. J. Mol. Med.* 41: 1013-1020.
4. Thangaraj, A., et al. 2020. Mitigation of cocaine-mediated mitochondrial damage, defective mitophagy and microglial activation by superoxide dismutase mimetics. *Autophagy* 16: 289-312.
5. Hu, X., et al. 2022. SUMOylation of Optineurin is critical for inhibiting interferon β production. *Biochem. Biophys. Res. Commun.* 623: 189-195.

RESEARCH USE

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