

Optineurin (C-2): sc-166576

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.

CHROMOSOMAL LOCATION

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

SOURCE

Optineurin (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 150-190 near the N-terminus of Optineurin of human origin.

PRODUCT

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

Optineurin (C-2) is available conjugated to agarose (sc-166576 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166576 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166576 PE), fluorescein (sc-166576 FITC), Alexa Fluor[®] 488 (sc-166576 AF488), Alexa Fluor[®] 546 (sc-166576 AF546), Alexa Fluor[®] 594 (sc-166576 AF594) or Alexa Fluor[®] 647 (sc-166576 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-166576 AF680) or Alexa Fluor[®] 790 (sc-166576 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166576 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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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.

PROTOCOLS

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

APPLICATIONS

Optineurin (C-2) 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).

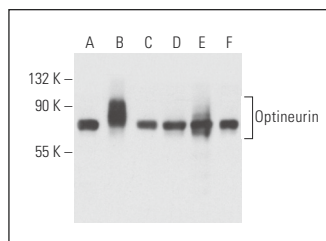
Optineurin (C-2) is also recommended for detection of Optineurin in additional species, including bovine.

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.

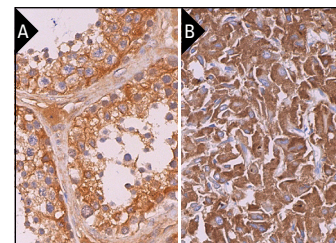
Molecular Weight of Optineurin: 74 kDa.

Positive Controls: Optineurin (h2): 293T Lysate: sc-170133, Jurkat whole cell lysate: sc-2204 or HeLa nuclear extract: sc-2120.

DATA



Optineurin (C-2): sc-166576. Western blot analysis of Optineurin expression in non-transfected 293T: sc-117752 (A), human Optineurin transfected 293T: sc-170133 (B), Jurkat (C), Sol8 (D) and L6 (E) whole cell lysates and HeLa nuclear extract (F).



Optineurin (C-2): sc-166576. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Sharma, A., et al. 2014. Brown fat determination and development from muscle precursor cells by novel action of bone morphogenetic protein 6. *PLoS ONE* 9: e92608.
- Fukushi, M., et al. 2023. Optineurin deficiency impairs autophagy to cause interferon β overproduction and increased survival of mice following viral infection. *PLoS ONE* 18: e0287545.
- Saha, B., et al. 2024. TBK1 is ubiquitinated by TRIM5 α to assemble mitophagy machinery. *Cell Rep.* 43: 114294.

RESEARCH USE

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