

OSBP (H-5): sc-515683



The Power to Question

BACKGROUND

The oxysterol-binding protein (OSBP) family of proteins consist of OSBP (OSBP1) and OSBP2 (ORP-4), which share a high overall similarity. OSBPs are involved in lipid metabolism and signal transduction, as well as vesicle transport, and can translocate to the periphery of Golgi membranes when they are bound to oxysterols. The OSBP protein transports sterols from lysosomes to the nucleus, where sterols downregulate the genes for HMG synthetase, HMG-CoA reductase and the low density lipoprotein receptor (LDLR). OSBP localizes to the cytosol and is widely expressed, while OSBP2 is mainly detected in testis, retina and fetal liver. The extracellular signal-regulated kinase (ERK) signaling pathway is controlled by OSBP via its cholesterol-binding properties. OSBP binds with a high affinity to 25-hydroxy-cholesterol (25-HC), a suppressor of cholesterol synthesis gene transcription in cultured cells.

REFERENCES

1. Levanon, D., et al. 1990. cDNA cloning of human oxysterol-binding protein and local to human chromosome 11 and mouse chromosome 19. *Genomics* 7: 65-74.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 167040. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Im, Y.J., et al. 2005. Structural mechanism for sterol sensing and transport by OSBP-related proteins. *Nature* 437: 154-158.
4. Balla, A., et al. 2005. A plasma membrane pool of phosphatidylinositol 4-phosphate is generated by phosphatidylinositol 4-kinase type-III α : studies with the PH domains of the oxysterol binding protein and FAPP1. *Mol. Biol. Cell* 16: 1282-1295.
5. Nishimura, T., et al. 2005. Inhibition of cholesterol biosynthesis by 25-hydroxycholesterol is independent of OSBP. *Genes Cells* 10: 793-801.
6. Wang, P.Y., et al. 2005. OSBP is a cholesterol-regulated scaffolding protein in control of ERK 1/2 activation. *Science* 307: 1472-1476.

CHROMOSOMAL LOCATION

Genetic locus: OSBP (human) mapping to 11q12.1; Osbp (mouse) mapping to 19 A.

SOURCE

OSBP (H-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 778-793 at the C-terminus of OSBP 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.

STORAGE

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

APPLICATIONS

OSBP (H-5) is recommended for detection of OSBP 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for OSBP siRNA (h): sc-61264, OSBP siRNA(m): sc-151327, OSBP shRNA Plasmid (h): sc-61264-SH, OSBP shRNA Plasmid (m): sc-151327-SH, OSBP shRNA (h) Lentiviral Particles: sc-61264-V and OSBP shRNA (m) Lentiviral Particles: sc-151327-V.

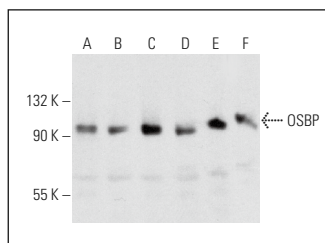
Molecular Weight of OSBP: 90 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or LNCaP cell lysate: sc-2231.

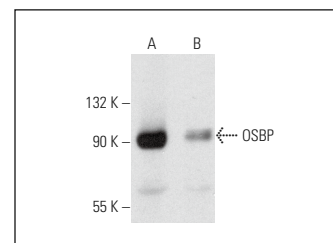
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



OSBP (H-5): sc-515683. Western blot analysis of OSBP expression in HeLa (A), K-562 (B), LNCaP (C), JAR (D), Jurkat (E) and CCRF-CEM (F) whole cell lysates.



OSBP (H-5): sc-515683. Western blot analysis of OSBP expression in RPE-J (A) and C6 (B) whole cell lysates.

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.