SANTA CRUZ BIOTECHNOLOGY, INC.

ORP-8 (PL-C26): sc-134409

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the oxysterol-binding protein (OSBP) family function as intracellular lipid receptors. 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. ORPs (OSBP-related proteins) belong to a subfamily of OSBPs consisting of ORP-1 through ORP-11. The ORPs have a highly conserved OSBP-type sterol-binding region and a pleckstrin homology domain. They strongly bind to phosphatidic acid and weakly bind to phosphatidylinositol 3-phosphate. ORP-8 (oxysterol binding protein-like 8), also known as MST120, OSBP10, MSTP120 or OSBPL8, is an 889 amino acid widely expressed protein belonging to the OSBP family. Localized to the endoplasmic reticulum, ORP-8 suppresses ABC1 (ATP binding cassette transporter A1) expression and cholesterol efflux from macrophages. Existing as two isoforms due to alternative splicing events, ORP-8 may modulate the development of atherosclerosis.

REFERENCES

1. Olkkonen, V.M., et al. 2006. The OSBP-related proteins (ORPs): global sterol sensors for coordination of cellular lipid metabolism, membrane trafficking and signalling processes? Biochem. Soc. Trans. 34: 389-391.
2. Raychaudhuri, S., et al. 2006. Nonvesicular sterol movement from plasma membrane to ER requires oxysterol-binding protein-related proteins and phosphoinositides. J. Cell Biol. 173: 107-119.
3. Yan, D., et al. 2007. Expression of human OSBP-related protein 1L in macrophages enhances atherosclerotic lesion development in LDL receptor-deficient mice. Arterioscler. Thromb. Vasc. Biol. 27: 1618-1624.
4. Suchanek, M., et al. 2007. The mammalian oxysterol-binding protein-related proteins (ORPs) bind 25-hydroxycholesterol in an evolutionarily conserved pocket. Biochem. J. 405: 473-480.
5. Fairn, G.D. and McMaster, C.R. 2008. Emerging roles of the oxysterol-binding protein family in metabolism, transport, and signaling. Cell. Mol. Life Sci. 65: 228-236.
6. Yan, D. and Olkkonen, V.M. 2008. Characteristics of oxysterol binding proteins. Int. Rev. Cytol. 265: 253-285.
7. Yan, D., et al. 2008. OSBP-related protein 8 (ORP-8) suppresses ABCA1 expression and cholesterol efflux from macrophages. J. Biol. Chem. 283: 332-340.

CHROMOSOMAL LOCATION

Genetic locus: OSBPL8 (human) mapping to 12q21.2.

SOURCE

ORP-8 (PL-C26) is a mouse monoclonal antibody raised against recombinant ORP-8 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ORP-8 (PL-C26) is recommended for detection of ORP-8 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ORP-8 siRNA (h): sc-96001, ORP-8 shRNA Plasmid (h): sc-96001-SH and ORP-8 shRNA (h) Lentiviral Particles: sc-96001-V.

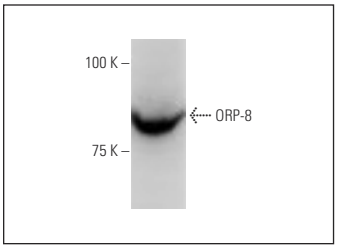
Molecular Weight of ORP-8: 101 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



ORP-8 (PL-C26): sc-134409. Western blot analysis of ORP-8 expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zhang, Z., et al. 2019. Repurposing brigatinib for the treatment of colorectal cancer based on nhibition of ER-phagy. Theranostics 9: 4878-4892.
2. Monteiro-Cardoso, V.F., et al. 2022. ORP-5/8 and MIB/MICOS link ER-mitochondria and intra-mitochondrial contacts for non-vesicular transport of phosphatidylserine. Cell Rep. 40: 111364.
3. Guyard, V., et al. 2022. ORP5 and ORP8 orchestrate lipid droplet biogenesis and maintenance at ER-mitochondria contact sites. J. Cell Biol. 221: e202112107.

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.