SANTA CRUZ BIOTECHNOLOGY, INC.

ORP150 (A-3): sc-398224

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ORP150, also known as HYOU1 (hypoxia upregulated 1), is a 999 amino acid protein that localizes to the lumen of the endoplasmic reticulum (ER) and is a member of the heat shock protein 70 (HSP 70) family. ORP150 is highly expressed in tissues that have well-developed ERs and a large number of secretory proteins (such as liver and pancreas). It is expressed at lower levels in kidney and brain, and plays an essential role in cytoprotective cellular responses to hypoxia (oxygen deprivation). Specifically, ORP150 participates in protein folding and secretion in the ER and functions to protect cells from hypoxia-induced apoptosis, thereby playing a crucial role in cell survival. ORP150 expression is upregulated in a variety of tumors, such as breast cancer, suggesting an important role in tumorigenesis. The gene encoding ORP150 has two translation initiation sites, resulting in a truncated transcript that lacks an ER signal peptide, but is thought to function as a housekeeping protein in the cytoplasm.

REFERENCES

1. Ikeda, J., et al. 1997. Cloning and expression of cDNA encoding the human 150 kDa oxygen-regulated protein, ORP150. Biochem. Biophys. Res. Commun. 230: 94-99.
2. Ozawa, K., et al. 1999. 150-kDa oxygen-regulated protein (ORP150) suppresses hypoxia-induced apoptotic cell death. J. Biol. Chem. 274: 6397-6404.

CHROMOSOMAL LOCATION

Genetic locus: HYOU1 (human) mapping to 11q23.3; Hyou1 (mouse) mapping to 9 A5.2.

SOURCE

ORP150 (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 118-143 near the N-terminus of ORP150 of human origin.

PRODUCT

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

ORP150 (A-3) is available conjugated to agarose (sc-398224 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398224 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398224 PE), fluorescein (sc-398224 FITC), Alexa Fluor® 488 (sc-398224 AF488), Alexa Fluor® 546 (sc-398224 AF546), Alexa Fluor® 594 (sc-398224 AF594) or Alexa Fluor® 647 (sc-398224 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398224 AF680) or Alexa Fluor® 790 (sc-398224 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398224 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

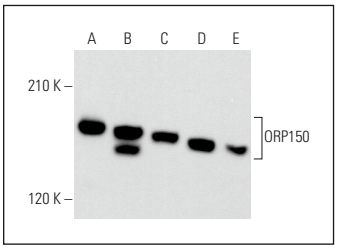
ORP150 (A-3) is recommended for detection of ORP150 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 ORP150 siRNA (h): sc-96695, ORP150 siRNA (m): sc-151324, ORP150 shRNA Plasmid (h): sc-96695-SH, ORP150 shRNA Plasmid (m): sc-151324-SH, ORP150 shRNA (h) Lentiviral Particles: sc-96695-V and ORP150 shRNA (m) Lentiviral Particles: sc-151324-V.

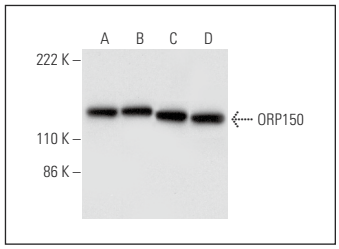
Molecular Weight of ORP150: 150 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

DATA



ORP150 (A-3): sc-398224. Western blot analysis of ORP150 expression in HeLa (**A**), MCF7 (**B**), Hep G2 (**C**) and U266 (**D**) whole cell lysates and human fetal liver tissue extract (**E**).



ORP150 (A-3): sc-398224. Western blot analysis of ORP150 expression in HeLa (**A**), MCF7 (**B**), Hep G2 (**C**) and K-562 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Miyagawa, K., et al. 2020. Osteoclast-derived IGF1 is required for pagetic lesion formation *in vivo*. JCI Insight 5: e133113.
2. Kim, C.H., et al. 2021. Bisphenol A exposure changes the transcriptomic and proteomic dynamics of human retinoblastoma Y79 cells. Genes 12: 264.
3. Chen, M., et al. 2023. Comparative site-specific N-glycoproteome analysis reveals aberrant N-glycosylation and gives insights into mannose-6-phosphate pathway in cancer. Commun. Biol. 6: 48.
4. Wang, Z., et al. 2023. FUT2-dependent fucosylation of HYOU1 protects intestinal stem cells against inflammatory injury by regulating unfolded protein response. Redox Biol. 60: 102618.

STORAGE

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