

# OCRL (C-2): sc-393577

## BACKGROUND

The inositol polyphosphate 5-phosphatases selectively remove the phosphate from the 5-position of various phosphatidylinositols, which generate second messengers in response to extracellular signals. OCRL1 is a type II 5-phosphatase that is mutated in the oculocerebrorenal syndrome of Lowe (OCRL). OCRL is a rare X-linked disorder that is characterized in part by congenital cataracts, mental retardation, muscular hypotonia, and renal tubular dysfunction. OCRL1 has a high affinity for phosphatidylinositol 4,5-bisphosphate as well as inositol 1,4,5-trisphosphate, and inositol 1,3,4,5-tetrakisphosphate as substrates. OCRL1 is localized to the Golgi complex and is thought to be part of the *trans*-Golgi network (TGN), which suggests that OCRL1 plays a role in protein sorting and trafficking within the cell.

## REFERENCES

- Zhang, X., et al. 1995. The protein deficient in Lowe syndrome is a phosphatidylinositol-4,5-bisphosphate 5-phosphatase. *Proc. Natl. Acad. Sci. USA* 92: 4853-4856.
- Mitchell, C.A., et al. 1996. Regulation of second messengers by the inositol polyphosphate 5-phosphatases. *Biochem. Soc. Trans.* 24: 994-1000.
- Zhang, X., et al. 1998. Phosphatidylinositol signalling reactions. *Semin. Cell Dev. Biol.* 9: 153-160.
- Erneux, C., et al. 1998. The diversity and possible functions of the inositol polyphosphate 5-phosphatases. *Biochim. Biophys. Acta* 1436: 185-199.
- Majerus, P.W., et al. 1999. The role of phosphatases in inositol signaling reactions. *J. Biol. Chem.* 274: 10669-10672.

## CHROMOSOMAL LOCATION

Genetic locus: OCRL (human) mapping to Xq25; Ocr1 (mouse) mapping to X A4.

## SOURCE

OCRL (C-2) is a mouse monoclonal antibody raised against amino acids 1-240 mapping at the N-terminus of OCRL of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

OCRL (C-2) is available conjugated to agarose (sc-393577 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393577 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393577 PE), fluorescein (sc-393577 FITC), Alexa Fluor<sup>®</sup> 488 (sc-393577 AF488), Alexa Fluor<sup>®</sup> 546 (sc-393577 AF546), Alexa Fluor<sup>®</sup> 594 (sc-393577 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-393577 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-393577 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-393577 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## RESEARCH USE

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

## APPLICATIONS

OCRL (C-2) is recommended for detection of OCRL 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 OCRL siRNA (h): sc-39073, OCRL siRNA (m): sc-39074, OCRL shRNA Plasmid (h): sc-39073-SH, OCRL shRNA Plasmid (m): sc-39074-SH, OCRL shRNA (h) Lentiviral Particles: sc-39073-V and OCRL shRNA (m) Lentiviral Particles: sc-39074-V.

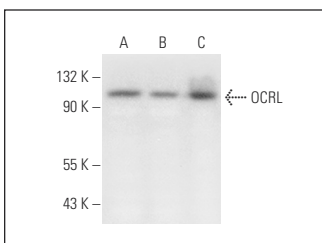
Molecular Weight of OCRL: 105 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, A-431 whole cell lysate: sc-2201 or HeLa nuclear extract: sc-2120.

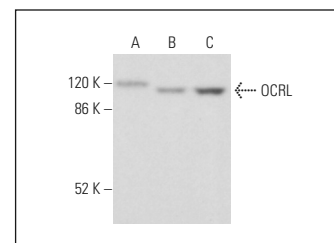
## RECOMMENDED SUPPORT REAGENTS

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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



OCRL (C-2): sc-393577. Western blot analysis of OCRL expression in IMR-32 (A) and A-431 (B) whole cell lysates and HeLa nuclear extract (C).



OCRL (C-2): sc-393577. Western blot analysis of OCRL expression in IMR-32 (A), AN3 CA (B) and HUV-EG-C (C) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

## SELECT PRODUCT CITATIONS

- Hsieh, W.C., et al. 2018. Kidney-differentiated cells derived from Lowe syndrome patient's iPSCs show ciliogenesis defects and Six2 retention at the Golgi complex. *PLoS ONE* 13: e0192635.
- Preston, R., et al. 2020. A role for OCRL in glomerular function and disease. *Pediatr. Nephrol.* 35: 641-648.

## STORAGE

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