abcam

ab284833

Anti-OCRL antibody [EP10256] - BSA and Azide free

RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EP10256
Purity	Tissue culture supernatant

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information OCRL

Function	Catalyzes the hydrolysis of the 5-position phosphate of phosphatidylinositol 4,5-bisphosphate (PtdIns(4,5)P2) and phosphatidylinositol-3,4,5-bisphosphate (PtdIns(3,4,5)P3), with the greatest catalytic activity towards PtdIns(4,5)P2 (PubMed:10764818, PubMed:15474001, PubMed:7761412, PubMed:9430698). Able

also to hydrolyze the 5-phosphate of inositol 1,4,5-trisphosphate and of inositol 1,3,4,5-tetrakisphosphate (PubMed:25869668, PubMed:7761412). Regulates traffic in the endosomal pathway by regulating the specific pool of phosphatidylinositol 4,5-bisphosphate that is associated with endosomes (PubMed:21971085). Involved in primary cilia assembly (PubMed:22228094, PubMed:22543976). Acts as a regulator of phagocytosis, hydrolyzing PtdIns(4,5)P2 to promote phagosome closure, through attenuation of PI3K signaling (PubMed:22072788).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab284833 is the carrier-free version of ab181039

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The OCRL protein also known as oculocerebrorenal syndrome of Lowe protein is a phosphatidylinositol 45-bisphosphate 5-phosphatase involved in cellular membrane trafficking. It has a molecular mass of approximately 105 kDa. Localization of OCRL occurs in several cellular compartments including the endosomes and the Golgi apparatus. This protein is widely expressed in tissues such as the brain kidney and eyes. Scientists often study OCRL to better understand its role in cellular functions and associated disorders.
Biological function summary	OCRL participates in the regulation of phosphoinositide metabolism by dephosphorylating phosphatidylinositol 45-bisphosphate an important signaling lipid. OCRL is a member of the inositol polyphosphate 5-phosphatase family and associates with clathrin-mediated endocytosis complexes. The protein ensures proper vesicular trafficking and maintenance of cell membrane dynamics impacting processes like endocytosis and ciliogenesis. Researchers focus on understanding OCRL's interactions and dynamics to comprehend its contribution to these processes.
Pathways	OCRL plays a significant role in the phosphoinositide signaling pathway and is integral to cellular trafficking pathways. In the phosphoinositide signaling pathway OCRL modulates the availability of phosphatidylinositol 45-bisphosphate interacting with proteins like APPL1 and Rab GTPases. In cellular trafficking pathways OCRL coordinates with proteins such as clathrin and dynamin to regulate endocytosis and endosomal function. Understanding OCRL's placement within these pathways provides insight into its impact on cellular homeostasis.
Associated diseases and disorders	OCRL mutations are linked to Lowe syndrome and Dent disease both of which involve renal and ocular complications. Lowe syndrome characterized by congenital cataracts intellectual disabilities and renal Fanconi syndrome directly associates with OCRL dysfunction. The OCRL protein interacts with clathrin and Rab GTPases contributing to the pathogenesis of these disorders by disrupting normal vesicle trafficking processes. Research on OCRL-related mechanisms in these diseases seeks to unravel potential therapeutic targets and interventions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

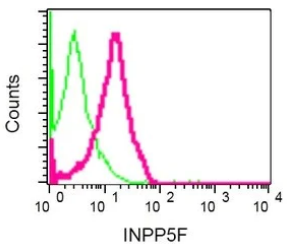
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

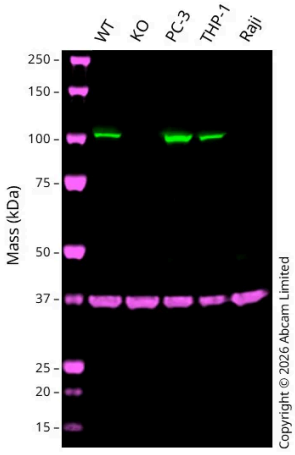
3 product images



Flow Cytometry (Intracellular) - Anti-OCRL antibody [EP10256] - BSA and Azide free (ab284833)

OCRL Flow Cytometry (Intracellular) staining using rabbit Anti-OCRL antibody

This data was developed using ab181039, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized SH-SY5Y cells using ab181039 at a 1/10 dilution (red) or a rabbit IgG (negative) (green).



Western blot - Anti-OCRL antibody [EP10256] - BSA and Azide free (ab284833)

OCRL Western blot staining using rabbit Anti-OCRL antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181039).

Western blot: Anti-OCRL antibody [EP10256] ab181039 staining at 1/1000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 104 kDa in Wild-type U-87 MG cell lysates with no signal observed at this size in OCRL knockout U-87 MG cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3pc Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-OCRL antibody [EP10256] (ab181039) at 1/1000 dilution

Lane 1:
Wild-type U-87 MG cell lysates at 20 µg

Lane 2:
OCRL knockout U-87 MG cell lysates at 20 µg

Lane 3:
PC-3 cell lysates at 20 µg

Lane 4:
THP-1 cell lysates at 20 µg

Lane 5:
Raji cell lysates at 20 µg

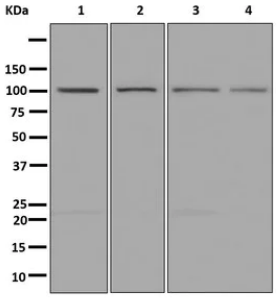
Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 104 kDa

Observed band size: 104 kDa



Western blot - Anti-OCRL antibody [EP10256] - BSA and Azide free (ab284833)

OCRL Western blot staining using rabbit Anti-OCRL antibody

This data was developed using ab181039, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-OCRL antibody [EP10256] (ab181039) at 1000 µg

Lane 1:
293T cell lysates at 10 µg

Lane 2:
SH-SY5Y cell lysates at 10 µg

Lane 3:
HeLa cell lysates at 10 µg

Lane 4:
JAR cell lysates at 10 µg

Predicted band size: 104 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.