

# PHACTR1 (E-2): sc-514800

## BACKGROUND

In eukaryotes, the phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions, including division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases. PHACTR1 (phosphatase and Actin regulator 1), also known as RPEL or RPEL1, is a 580 amino acid cytoplasmic protein belonging to the phosphatase and Actin regulator family. Existing as two alternatively spliced isoforms, PHACTR1 contains RPEL repeats and is encoded by a gene located on human chromosome 6, which contains around 1,200 genes and 170 million base pairs. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer suggesting the presence of a cancer susceptibility locus. Porphyria cutanea tarda is associated with chromosome 6 through the HFE gene which, when mutated, predisposes an individual to developing this porphyria.

## REFERENCES

- Allen, P.B., et al. 2004. Phactrs 1-4: a family of protein phosphatase 1 and Actin regulatory proteins. *Proc. Natl. Acad. Sci. USA* 101: 7187-7192.
- Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608723. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: PHACTR1 (human) mapping to 6p24.1; Phactr1 (mouse) mapping to 13 A4.

## SOURCE

PHACTR1 (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 53-67 near the N-terminus of PHACTR1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PHACTR1 (E-2) is available conjugated to agarose (sc-514800 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514800 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514800 PE), fluorescein (sc-514800 FITC), Alexa Fluor® 488 (sc-514800 AF488), Alexa Fluor® 546 (sc-514800 AF546), Alexa Fluor® 594 (sc-514800 AF594) or Alexa Fluor® 647 (sc-514800 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514800 AF680) or Alexa Fluor® 790 (sc-514800 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514800 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## RESEARCH USE

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

## APPLICATIONS

PHACTR1 (E-2) is recommended for detection of PHACTR1 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 PHACTR1 siRNA (h): sc-95456, PHACTR1 siRNA (m): sc-106404, PHACTR1 shRNA Plasmid (h): sc-95456-SH, PHACTR1 shRNA Plasmid (m): sc-106404-SH, PHACTR1 shRNA (h) Lentiviral Particles: sc-95456-V and PHACTR1 shRNA (m) Lentiviral Particles: sc-106404-V.

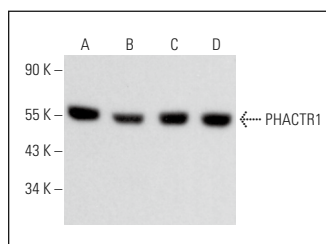
Molecular Weight of PHACTR1: 66 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, Jurkat whole cell lysate: sc-2204 or HUV-EC-C whole cell lysate: sc-364180.

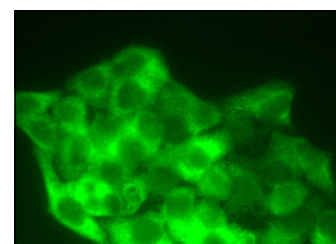
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



PHACTR1 (E-2): sc-514800. Western blot analysis of PHACTR1 expression in Jurkat (A), HUV-EC-C (B), HL-60 (C) and C6 (D) whole cell lysates. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.



PHACTR1 (E-2): sc-514800. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Yang, Y., et al. 2020. PHACTR1 is associated with disease progression in Chinese Moyamoya disease. *PeerJ* 8: e8841.

## STORAGE

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