

Hip1r (44): sc-135937

BACKGROUND

Huntington disease (HD) is an inherited neurodegenerative disorder, which is associated with the expansion of a polyglutamine tract, greater than 35 repeats, in the HD gene product Huntingtin. HIP1 (huntingtin-interacting protein 1) and its related protein Hip1r are multi-domain proteins that form homodimers, interact with inositol lipids, clathrin and Actin via their epsin N-terminal homology (ENTH) domains, and are involved in vesicular trafficking. Double Hip1 and Hip1r knockout (DKO) mice are dwarfed, afflicted with severe vertebral defects and die in early adulthood. Single Hip1 or Hip1r knockouts do not display these phenotypes suggesting compensatory roles for Hip1 and Hip1r. Specifically, Hip1r is a component of clathrin-coated pits and vesicles that may link the endocytic machinery to the Actin cytoskeleton.

REFERENCES

1. Seki, N., et al. 1998. Cloning, expression analysis, and chromosomal localization of Hip1r, an isolog of Huntingtin interacting protein (HIP1). *J. Hum. Genet.* 43: 268-271.
2. Engqvist-Goldstein, A.E., et al. 2001. The Actin-binding protein Hip1r associates with clathrin during early stages of endocytosis and promotes clathrin assembly *in vitro*. *J. Cell Biol.* 154: 1209-1223.
3. Hyun, T.S., et al. 2004. HIP1 and Hip1r stabilize receptor tyrosine kinases and bind 3-phosphoinositides via epsin N-terminal homology domains. *J. Biol. Chem.* 279: 14294-14306.
4. Hyun, T.S., et al. 2004. Hip1-related mutant mice grow and develop normally but have accelerated spinal abnormalities and dwarfism in the absence of HIP1. *Mol. Cell. Biol.* 24: 4329-4340.
5. Brett, T.J., et al. 2006. Structural definition of the F-Actin-binding THATCH domain from Hip1r. *Nat. Struct. Mol. Biol.* 13: 121-130.
6. Bradley, S.V., et al. 2007. Degenerative phenotypes caused by the combined deficiency of murine HIP1 and Hip1r are rescued by human HIP1. *Hum. Mol. Genet.* 16: 1279-1292.
7. Wilbur, J.D., et al. 2008. Actin binding by HIP1 (Huntingtin-interacting protein 1) and Hip1r (Hip1-related protein) is regulated by clathrin light chain. *J. Biol. Chem.* 283: 32870-32879.

CHROMOSOMAL LOCATION

Genetic locus: HIP12 (human) mapping to 12q24.31; Hip1r (mouse) mapping to 5 F.

SOURCE

Hip1r (44) is a mouse monoclonal antibody raised against amino acids 560-772 of Hip1r of mouse origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

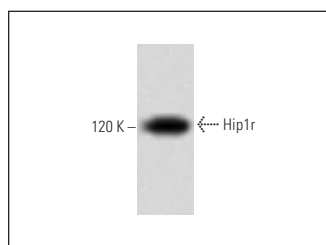
Hip1r (44) is recommended for detection of HIP12 of human origin, Hip1r of mouse origin and the corresponding rat and canine homologs by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for HIP12 siRNA (h): sc-105453, Hip1r siRNA (m): sc-145969, HIP12 shRNA Plasmid (h): sc-105453-SH, Hip1r shRNA Plasmid (m): sc-145969-SH, HIP12 shRNA (h) Lentiviral Particles: sc-105453-V and Hip1r shRNA (m) Lentiviral Particles: sc-145969-V.

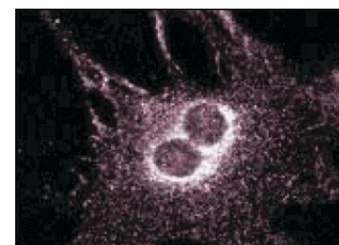
Molecular Weight of Hip1r: 120 kDa.

Positive Controls: BC₃H1 cell lysate: sc-2299.

DATA



Hip1r (44): sc-135937. Western blot analysis of Hip1r expression in BC₃H1 whole cell lysate.



Hip1r (44): sc-135937. Immunofluorescence staining of BC₃H1 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Azamia Tehran, D., et al. 2022. Selective endocytosis of Ca²⁺-permeable AMPARs by the Alzheimer's disease risk factor CALM bidirectionally controls synaptic plasticity. *Sci. Adv.* 8: eab15032.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.