

PPP1R6 (P-20): sc-85836

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. In general, the protein phosphatase (PP) holoenzyme is a trimeric complex composed of a regulatory subunit, a variable subunit and a catalytic subunit. PPP1R6 (protein phosphatase 1, regulatory subunit 6), also known as PPP1R3D in humans and Ppp1r3d in rodents, is a 299 amino acid protein that contains one CBM21 (carbohydrate binding type-21) domain and exists as a regulatory subunit of the PP1 holoenzyme. Expressed ubiquitously with highest expression in heart and skeletal muscle, PPP1R6 functions as a glycogen-targeting subunit of PP1 and participates in cell division, glycogen metabolism and protein synthesis.

REFERENCES

1. McCright, B. and Virshup, D.M. 1995. Identification of a new family of protein phosphatase 2A regulatory subunits. *J. Biol. Chem.* 270: 26123-26128.
2. Johnson, D.F., Moorhead, G., Caudwell, F.B., Cohen, P., Chen, Y.H., Chen, M.X. and Cohen, P.T. 1996. Identification of protein-phosphatase-1-binding domains on the glycogen and myofibrillar targeting subunits. *Eur. J. Biochem.* 239: 317-325.
3. Armstrong, C.G., Browne, G.J., Cohen, P. and Cohen, P.T. 1997. PPP1R6, a novel member of the family of glycogen-targeting subunits of protein phosphatase 1. *FEBS Lett.* 418: 210-214.
4. Lee, E.Y., Zhang, L., Zhao, S., Wei, Q., Zhang, J., Qi, Z.Q. and Belmonte, E.R. 1999. Phosphorylase phosphatase: new horizons for an old enzyme. *Front. Biosci.* 4: D270-D285.

CHROMOSOMAL LOCATION

Genetic locus: PPP1R3D (human) mapping to 20q13.33; Ppp1r3d (mouse) mapping to 2 H4.

SOURCE

PPP1R6 (P-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of PPP1R6 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-85836 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

PPP1R6 (P-20) is recommended for detection of PPP1R6 of human origin and Ppp1r3d of mouse and rat origin 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)], 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); non cross-reactive with PPP1R4.

PPP1R6 (P-20) is also recommended for detection of PPP1R6 in additional species, including equine.

Suitable for use as control antibody for PPP1R6 siRNA (h): sc-76209, Ppp1r3d siRNA (m): sc-152421, PPP1R6 shRNA Plasmid (h): sc-76209-SH, Ppp1r3d shRNA Plasmid (m): sc-152421-SH, PPP1R6 shRNA (h) Lentiviral Particles: sc-76209-V and Ppp1r3d shRNA (m) Lentiviral Particles: sc-152421-V.

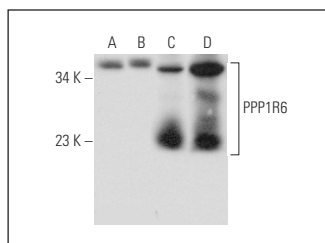
Molecular Weight of PPP1R6: 33 kDa.

Positive Controls: mouse heart extract: sc-2254, mouse brain extract: sc-2253 or K-562 whole cell lysate: sc-2203.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PPP1R6 (P-20): sc-85836. Western blot analysis of PPP1R6 expression in Jurkat (A) and K-562 (B) whole cell lysates and mouse brain (C) and mouse heart (D) tissue extracts.

SELECT PRODUCT CITATIONS

1. Montori-Grau, M., Guitart, M., García-Martínez, C., Orozco, A. and Gómez-Foix, A.M. 2011. Differential pattern of glycogen accumulation after protein phosphatase 1 glycogen-targeting subunit PPP1R6 overexpression, compared to PPP1R3C and PPP1R3A, in skeletal muscle cells. *BMC Biochem.* 12: 57.