SANTA CRUZ BIOTECHNOLOGY, INC.

Phd (N-15): sc-18413

BACKGROUND

Phosducin is a phototransducing protein that may participate in the feedback regulation of visual phototransduction or in the integration of photoreceptor metabolism. The human phosducin gene maps to chromosome 1q31.1 and encodes a 246 amino acid protein, also designated Phd. Phosducin is primarily expressed in the retina and the pineal gland, while lower levels are present in tissues such as liver, spleen, striated muscle and the brain. Retinal phosducin is found exclusively in the outer and inner segments of photoreceptor cells, including the synaptic and nuclear layers. Phosducin modulates the phototransduction cascade through high affinity binding and sequestration of $G_{\beta/\gamma}$ subunits of heterotrimeric G proteins. Neutralization of $G_{\beta/\gamma}$ by phosducin inhibits G protein-mediated signaling, since G_{α} is unable to reassemble with $G_{\beta/\gamma}$ and provide a functional G protein trimer ($G_{\alpha/\beta/\gamma}$). In addition, phosducin can effectively slow down the mechanism of internalization of G protein-coupled opioid receptors.

CHROMOSOMAL LOCATION

Genetic locus: PDC (human) mapping to 1q31.1; Pdc (mouse) mapping to 1 G1.

SOURCE

Phd (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Phd of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18413 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.

APPLICATIONS

Phd (N-15) is recommended for detection of Phd of mouse, rat and human 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).

Suitable for use as control antibody for Phd siRNA (h): sc-40839, Phd siRNA (m): sc-40840, Phd shRNA Plasmid (h): sc-40839-SH, Phd shRNA Plasmid (m): sc-40840-SH, Phd shRNA (h) Lentiviral Particles: sc-40839-V and Phd shRNA (m) Lentiviral Particles: sc-40840-V.

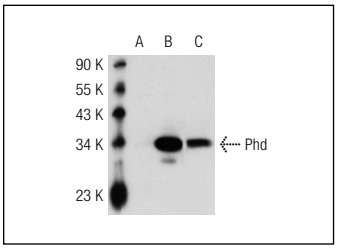
Molecular Weight of Phd: 33 kDa.

Positive Controls: mouse eye extract: sc-364241, Phd (m2): 293T Lysate: sc-122529 or rat eye extract: sc-364805.

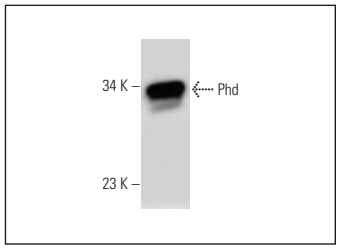
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Phd (N-15): sc-18413. Western blot analysis of Phd expression in non-transfected: sc-117752 (**A**) and mouse Phd transfected: sc-122529 (**B**) 293T whole cell lysates and rat eye tissue extract (**C**).



Phd (N-15): sc-18413. Western blot analysis of Phd expression in mouse eye tissue extract.

SELECT PRODUCT CITATIONS

1. Lobanova, E.S., et al. 2010. Mechanistic basis for the failure of cone transducin to translocate: why cones are never blinded by light. J. Neurosci. 30: 6815-6824.
2. Ying, M., et al. 2015. Drug-inducible synergistic gene silencing with multiple small hairpin RNA molecules for gene function study in animal model. Transgenic Res. 24: 309-317.

RESEARCH USE

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

PROTOCOLS

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