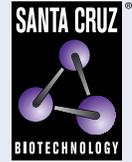


# PDE6 $\beta$ (B-8): sc-377486



The Power to Question

## BACKGROUND

Cyclic guanosine monophosphate (cGMP)-specific phosphodiesterase (PDE6) plays a crucial role in the phototransduction cascade in the vertebrate retina. The enzyme consists of an  $\alpha$  and a  $\beta$  subunit, with catalytic and cGMP binding activity, respectively, as well as two inhibitory  $\gamma$  subunits and a  $\delta$  subunit. PDE6 reduces intracellular cytoplasmic cGMP levels, specifically in photoreceptor cells. Mutations in the human PDE6A gene, which encodes the  $\alpha$  subunit, account for roughly 3-4% of the cases of recessive retinitis pigmentosa (RP) in North America.

## CHROMOSOMAL LOCATION

Genetic locus: PDE6B (human) mapping to 4p16.3; Pde6b (mouse) mapping to 5 F.

## SOURCE

PDE6 $\beta$  (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 779-811 near the C-terminus of PDE6 $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDE6 $\beta$  (B-8) is available conjugated to agarose (sc-377486 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377486 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377486 PE), fluorescein (sc-377486 FITC), Alexa Fluor<sup>®</sup> 488 (sc-377486 AF488), Alexa Fluor<sup>®</sup> 546 (sc-377486 AF546), Alexa Fluor<sup>®</sup> 594 (sc-377486 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-377486 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-377486 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-377486 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377486 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

PDE6 $\beta$  (B-8) is recommended for detection of precursor and mature PDE6 $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

PDE6 $\beta$  (B-8) is also recommended for detection of precursor and mature PDE6 $\beta$  in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PDE6 $\beta$  siRNA (h): sc-106850, PDE6 $\beta$  siRNA (m): sc-152131, PDE6 $\beta$  shRNA Plasmid (h): sc-106850-SH, PDE6 $\beta$  shRNA Plasmid (m): sc-152131-SH, PDE6 $\beta$  shRNA (h) Lentiviral Particles: sc-106850-V and PDE6 $\beta$  shRNA (m) Lentiviral Particles: sc-152131-V.

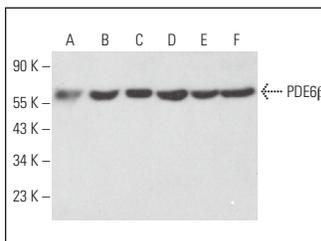
Molecular Weight of PDE6 $\beta$ : 98 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, HeLa whole cell lysate: sc-2200 or HEK293 whole cell lysate: sc-45136.

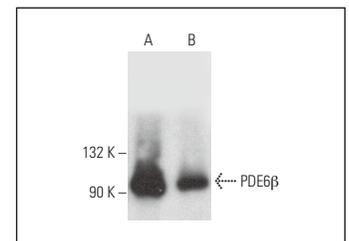
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



PDE6 $\beta$  (B-8): sc-377486. Western blot analysis of PDE6 $\beta$  expression in HeLa (A), HEK293 (B), EOC 20 (C), Neuro-2A (D), NIH/3T3 (E) and PC-12 (F) whole cell lysates.



PDE6 $\beta$  (B-8): sc-377486. Western blot analysis of PDE6 $\beta$  expression in mouse eye (A) and human eye (B) tissue extracts.

## SELECT PRODUCT CITATIONS

- Bitoque, D.B. and Silva, G.A. 2018. Molecular biology tools for the study and therapy of PDE6 $\beta$  mutations. *J. Biotechnol.* 284: 1-5.
- Yang, J.M., et al. 2021. Long-term effects of human induced pluripotent stem cell-derived retinal cell transplantation in Pde6b knockout rats. *Exp. Mol. Med.* 53: 631-642.
- Yang, J.M., et al. 2022. Development of a novel knockout model of retinitis pigmentosa using Pde6b-knockout Long-Evans rats. *Front. Med.* 9: 909182.
- Han, I.C., et al. 2023. Characterization of a novel Pde6b-deficient rat model of retinal degeneration and treatment with adeno-associated virus (AAV) gene therapy. *Gene Ther.* 30: 362-368.
- Ayten, M., et al. 2024. CD44 signaling in Müller cells impacts photoreceptor function and survival in healthy and diseased retinas. *J. Neuroinflammation* 21: 190.

## 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.

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