

GPR3 (B-5): sc-390276



The Power to Question

BACKGROUND

G protein-coupled receptor 3 (GPR3), also designated ACCA orphan receptor, is a 330 amino acid member of the G protein-coupled receptor 1 family. The function of GPR3 is mediated by G proteins which activate adenylate cyclase. GPR3 is a mutli-pass membrane protein that is located on the cellular membrane of cells and is detected at low levels in the eye, kidney, lung, ovary and testis. GPR3 is most highly expressed in the central nervous system, where it stimulates the production of cAMP, leading to neurite outgrowth and myelin inhibition. In oocytes, this control over cAMP production can halt meiosis and prevent progesterone-induced meiotic maturation. Mice deficient for GPR3 are able to reproduce but have no control over the oocyte maturation process, which results in nondeveloping early embryos and fragmented oocytes as the mice age.

CHROMOSOMAL LOCATION

Genetic locus: GPR3 (human) mapping to 1p36.11; Gpr3 (mouse) mapping to 4 D2.3.

SOURCE

GPR3 (B-5) is a mouse monoclonal antibody raised against amino acids 1-50 mapping within an N-terminal extracellular domain of GPR3 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GPR3 (B-5) is available conjugated to agarose (sc-390276 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390276 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390276 PE), fluorescein (sc-390276 FITC), Alexa Fluor® 488 (sc-390276 AF488), Alexa Fluor® 546 (sc-390276 AF546), Alexa Fluor® 594 (sc-390276 AF594) or Alexa Fluor® 647 (sc-390276 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390276 AF680) or Alexa Fluor® 790 (sc-390276 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

GPR3 (B-5) is recommended for detection of GPR3 of mouse, rat and, to a lesser extent, 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 GPR3 siRNA (h): sc-72173, GPR3 siRNA (m): sc-72174, GPR3 shRNA Plasmid (h): sc-72173-SH, GPR3 shRNA Plasmid (m): sc-72174-SH, GPR3 shRNA (h) Lentiviral Particles: sc-72173-V and GPR3 shRNA (m) Lentiviral Particles: sc-72174-V.

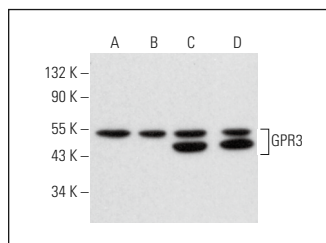
Molecular Weight of GPR3: 35 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, ALL-SIL whole cell lysate: sc-364356 or SUP-T1 whole cell lysate: sc-364796.

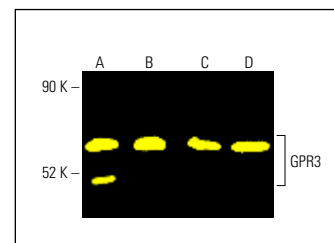
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GPR3 (B-5): sc-390276. Western blot analysis of GPR3 expression in Neuro-2A (A), NIH/3T3 (B), ALL-SIL (C) and SUP-T1 (D) whole cell lysates.



GPR3 (B-5): sc-390276. Fluorescent western blot analysis of GPR3 expression in ALL-SIL (A), SUP-T1 (B), TK-1 (C) and HeLa (D) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 488: sc-542735.

SELECT PRODUCT CITATIONS

- Choi, G.E., et al. 2023. Glucocorticoid enhances presenilin1-dependent Aβ production at ER's mitochondrial-associated membrane by downregulating Rer1 in neuronal cells. *Redox Biol.* 65: 102821.
- Dong, T., et al. 2024. Activation of GPR3-β-arrestin2-PKM2 pathway in Kupffer cells stimulates glycolysis and inhibits obesity and liver pathogenesis. *Nat. Commun.* 15: 807.

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.

PROTOCOLS

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