SANTA CRUZ BIOTECHNOLOGY, INC.

GPA2 (G-3): sc-390194

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glycoprotein hormone a2 subunit (GPA2) belongs to the dimeric glycoprotein hormones a chain family. GPA2 is an N-linked glycosylated secreted protein with ten cysteine residues likely involved in cysteine-knot formation. It forms a heterodimer with glycoprotein hormone β5 subunit (GPB5), also called thyrostimulin hormone, and activates thyroid stimulating hormone receptor (also designated thyrotropin receptor or TSHR), which increases cAMP production and stimulates the thymus. GPA2 and GPB5 are both evolutionarily conserved and GPA2 may serve as a scaffold for GPB5 for downstream G protein-coupled signaling. GPA2 demonstrates ubiquitious expression and co-localizes with GPB5 in the eye, testis and pituitary (GPA2 detected in the anterior lobe).

CHROMOSOMAL LOCATION

Genetic locus: GPHA2 (human) mapping to 11q13.1; Gpha2 (mouse) mapping to 19 A.

SOURCE

GPA2 (G-3) is a mouse monoclonal antibody raised against amino acids 1-129 representing full length GPA2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GPA2 (G-3) is available conjugated to agarose (sc-390194 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390194 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390194 PE), fluorescein (sc-390194 FITC), Alexa Fluor® 488 (sc-390194 AF488), Alexa Fluor® 546 (sc-390194 AF546), Alexa Fluor® 594 (sc-390194 AF594) or Alexa Fluor® 647 (sc-390194 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390194 AF680) or Alexa Fluor® 790 (sc-390194 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

GPA2 (G-3) is recommended for detection of GPA2 of mouse, rat and 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 GPA2 siRNA (h): sc-60713, GPA2 siRNA (m): sc-60714, GPA2 shRNA Plasmid (h): sc-60713-SH, GPA2 shRNA Plasmid (m): sc-60714-SH, GPA2 shRNA (h) Lentiviral Particles: sc-60713-V and GPA2 shRNA (m) Lentiviral Particles: sc-60714-V.

Molecular Weight (predicted) of GPA2: 14 kDa.

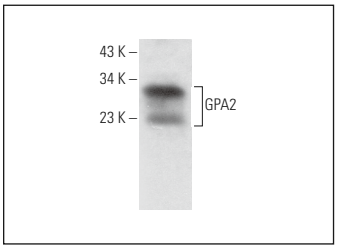
Molecular Weight (observed) of GPA2: 28 kDa.

Positive Controls: rat eye extract: sc-364805 or mouse eye extract: sc-364241.

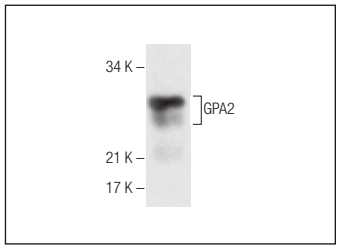
RECOMMENDED SUPPORT REAGENTS

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



GPA2 (G-3): sc-390194. Western blot analysis of GPA2 expression in rat eye tissue extract.



GPA2 (G-3): sc-390194. Western blot analysis of GPA2 expression in mouse eye tissue extract.

SELECT PRODUCT CITATIONS

1. Dou, S., et al. 2021. Molecular identity of human limbal heterogeneity involved in corneal homeostasis and privilege. Ocul. Surf. 21: 206-220.
2. Altshuler, A., et al. 2021. Discrete limbal epithelial stem cell populations mediate corneal homeostasis and wound healing. Cell Stem Cell 28: 1248-1261.e8.
3. Zhang, Z., et al. 2023. Interference of sympathetic overactivation restores limbal stem/progenitor cells function and accelerates corneal epithelial wound healing in diabetic mice. Biomed. Pharmacother. 161: 114523.
4. Sun, D., et al. 2024. Decoding cellular plasticity and niche regulation of limbal stem cells during corneal wound healing. Stem Cell Res. Ther. 15: 201.

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.