SANTA CRUZ BIOTECHNOLOGY, INC.

GPR3 (h): 293T Lysate: sc-115143

BACKGROUND

G protein-coupled receptor 3 (GPR3), also designated ACCA orphan receptor, is a 330 amino acid member of the G protein-coupled receptor one 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.

REFERENCES

1. Iismaa, T.P., et al. 1995. Isolation and chromosomal localization of a novel human G-protein-coupled receptor (GPR3) expressed predominantly in the central nervous system. Genomics 24: 391-394.
2. Eggerickx, D., et al. 1995. Molecular cloning of an orphan G protein-coupled receptor that constitutively activates adenylate cyclase. Biochem. J. 309: 837-843.
3. Marchese, A., et al. 1995. Cloning of human genes encoding novel G protein-coupled receptors. Genomics 23: 609-618.
4. Song, Z.H., et al. 1996. Molecular cloning and chromosomal localization of human genes encoding three closely related G protein-coupled receptors. Genomics 28: 347-349.
5. Hinckley, M., et al. 2005. The G protein-coupled receptors GPR3 and GPR12 are involved in cAMP signaling and maintenance of meiotic arrest in rodent oocytes. Dev. Biol. 287: 249-261.
6. Feuerstein, P., et al. 2006. Oocyte-cumulus dialog. Gynecol. Obstet. Fertil. 34: 793-800.
7. Tanaka, S., et al. 2007. Neural expression of G protein-coupled receptors GPR3, GPR6, and GPR12 upregulates cyclic AMP levels and promotes neurite outgrowth. J. Biol. Chem. 282: 10506-10515.
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CHROMOSOMAL LOCATION

Genetic locus: GPR3 (human) mapping to 1p36.11.

PRODUCT

GPR3 (h): 293T Lysate represents a lysate of human GPR3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

GPR3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive GPR3 antibodies. Recommended use: 10-20 µl per lane.

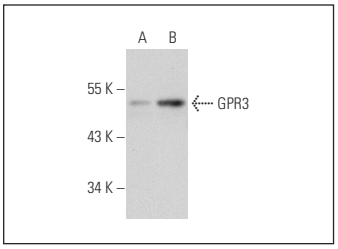
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

GPR3 (18-L): sc-100300 is recommended as a positive control antibody for Western Blot analysis of enhanced human GPR3 expression in GPR3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



GPR3 (18-L): sc-100300. Western blot analysis of GPR3 expression in non-transfected: sc-117752 (**A**) and human GPR3 transfected: sc-115143 (**B**) 293T whole cell lysates.

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.