SANTA CRUZ BIOTECHNOLOGY, INC.

GPRC5D (E-7): sc-377504

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GPRC5D (G protein-coupled receptor family C group 5 member D) is a 344 amino acid protein encoded by the mouse Gprc5d gene. GPRC5D is an orphan receptor member of the G protein-coupled receptor 3 family and a member of RAIG family. G protein-coupled receptors (GPCRs, or GPRs) contain seven transmembrane domains and transduce extracellular signals through heterotrimeric G proteins. Key roles for G protein-coupled receptors include control of protein maturation and cell surface delivery and providing the correct framework for interactions with both heterotrimeric G proteins and arrestins to allow signal generation and its termination. This retinoic acid-inducible G protein-coupled receptor provides evidence for a possible interaction between retinoid and G protein signaling pathways. GPRC5D is found in hard keratinized structures.

REFERENCES

1. Bräuner-Osborne, H. and Krogsgaard-Larsen, P. 2000. Sequence and expression pattern of a novel human orphan G protein-coupled receptor, GPRC5B, a family C receptor with a short amino-terminal domain. Genomics 65: 121-128.
2. Robbins, M.J., Michalovich, D., Hill, J., Calver, A.R., Medhurst, A.D., Gloger, I., Sims, M., Middlemiss, D.N. and Pangalos, M.N. 2000. Molecular cloning and characterization of two novel retinoic acid-inducible orphan G protein-coupled receptors (GPRC5B and GPRC5C). Genomics 67: 8-18.
3. Robbins, M.J., Charles, K.J., Harrison, D.C. and Pangalos, M.N. 2002. Localisation of the GPRC5B receptor in the rat brain and spinal cord. Brain Res. Mol. Brain Res. 106: 136-144.
4. Takeda, S., Kadowaki, S., Haga, T., Takaesu, H. and Mitaku, S. 2002. Identification of G protein-coupled receptor genes from the human genome sequence. FEBS Lett. 520: 97-101.
5. Inoue, S., Nambu, T. and Shimomura, T. 2004. The RAIG family member, GPRC5D, is associated with hard-keratinized structures. J. Invest. Dermatol. 122: 565-573.

CHROMOSOMAL LOCATION

Genetic locus: Gprc5d (mouse) mapping to 6 G1.

SOURCE

GPRC5D (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 217-249 within an extracellular domain of GPRC5D of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-377504 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GPRC5D (E-7) is recommended for detection of GPRC5D of mouse 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 GPRC5D siRNA (m): sc-62412, GPRC5D shRNA Plasmid (m): sc-62412-SH and GPRC5D shRNA (m) Lentiviral Particles: sc-62412-V.

Molecular Weight (predicted) of GPRC5D isoforms: 39/34/37 kDa.

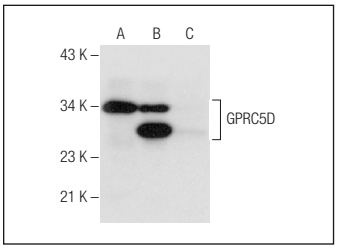
Molecular Weight (observed) of GPRC5D: 29-45 kDa.

Positive Controls: mouse kidney extract: sc-2255 or mouse colon extract: sc-364238.

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 L-Agarose: sc-2336 (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



GPRC5D (E-7): sc-377504. Western blot analysis of GPRC5D expression in mouse kidney (**A**), mouse colon (**B**) and rat pancreas (**C**) tissue extracts. Note lack of reactivity in rat GPRC5D in lane **C**.

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.