SANTA CRUZ BIOTECHNOLOGY, INC.

GPR14 (D-1): sc-515569

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GPR14 (G protein-coupled receptor), also designated SENR (sensory epithelium neuropeptide-like receptor), was initially cloned as an "orphan" receptor, which is a receptor that binds an unidentified natural ligand. Further studies have shown that urotensin II (UII), a cyclic neuropeptide, binds to GPR14 with very high affinity. Subsequently, cells transfected with GPR14 experience an increase in calcium concentration upon binding of urotensin II. It is the calcium influx and localization of GPR14 in heart tissues that suggests GPR14 may play a role in the contraction of vascular smooth muscles in response to the specific binding of urotensin II. GPRI4 is also detected in pancreas and, to a lesser extent, in brain tissues.

REFERENCES

1. Coulouarn, Y., et al. 1998. Cloning of the cDNA encoding the urotensin II precursor in frog and human reveals intense expression of the urotensin II gene in motoneurons of the spinal cord. Proc. Natl. Acad. Sci. USA 95: 15803-15808.
2. Civelli, O. 1998. Functional genomics: the search for novel neurotransmitters and neuropeptides. FEBS Lett. 430: 55-58.
3. Nothacker, H.P., et al. 1999. Identification of the natural ligand of an orphan G protein-coupled receptor involved in the regulation of vasoconstriction. Nat. Cell Biol. 1: 383-385.
4. Ames, R.S., et al. 1999. Human urotensin-II is a potent vasoconstrictor and agonist for the orphan receptor GPR14. Nature 401: 282-286.
5. Mori, M., et al. 1999. Urotensin II is the endogenous ligand of a G protein-coupled orphan receptor, SENR (GPR14). Biochem. Biophys. Res. Commun. 265: 123-129.
6. Coulouarn, Y., et al. 1999. Cloning, sequence analysis and tissue distribution of the mouse and rat urotensin II precursors. FEBS Lett. 457: 28-32.

CHROMOSOMAL LOCATION

Genetic locus: UTS2R (human) mapping to 17q25.3; Uts2r (mouse) mapping to 11 E2.

SOURCE

GPR14 (D-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 27-45 near the N-terminus of GPR14 of human 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-515569 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

GPR14 (D-1) is recommended for detection of GPR14 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 GPR14 siRNA (m): sc-37107, GPR14 shRNA Plasmid (m): sc-37107-SH and GPR14 shRNA (m) Lentiviral Particles: sc-37107-V.

Molecular Weight of glycosylated GPR14: 60 kDa.

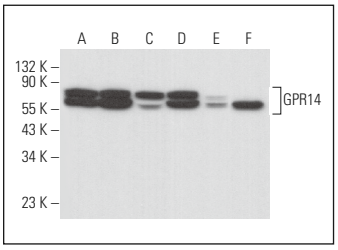
Molecular Weight of deglycosylated GPR14: 42 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SK-MEL-24 whole cell lysate: sc-364259 or A549 cell lysate: sc-2413.

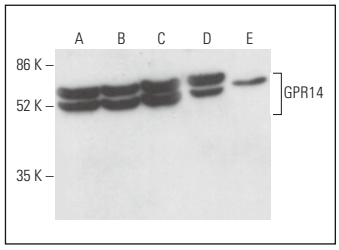
RECOMMENDED SUPPORT REAGENTS

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



GPR14 (D-1): sc-515569. Western blot analysis of GPR14 expression in HeLa (**A**), A2058 (**B**), 3T3-L1 (**C**), A549 (**D**), EOC 20 (**E**) and C6 (**F**) whole cell lysates.



GPR14 (D-1): sc-515569. Western blot analysis of GPR14 expression in HeLa (**A**), NCI-H292 (**B**), SK-MEL-24 (**C**), NIH/3T3 (**D**) and 3611-RF (**E**) 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.