SANTA CRUZ BIOTECHNOLOGY, INC.

CNG-1β (H-77): sc-292569

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cyclic nucleotide-gated (CNG) cation channels are heteromeric complexes made up of principal alpha subunits, designated CNG-1 through CNG-4, and modulatory beta subunits, designated CNG-1β and CNG-3β. CNG channels play essential roles in olfactory and visual transduction, regulation of arterial blood pressure and hormone secretion. CNG-1β (cyclic nucleotide-gated cation channel beta-1), also known as CNCG2, CNCG3L, GAR1, GARP or CNCG4, is a 909 amino acid multi-pass membrane protein that belongs to to the CNG family and contains one cyclic nucleotide-binding domain. Existing in a heterooligomeric complex with CNG-1, CNG-1β functions to generate a receptor current in response to a rise in cAMP levels within the cell. Multiple isoforms of CNG-β1 exist due to alternative splicing events.

REFERENCES

1. Sautter, A., et al. 1997. Molecular cloning of cyclic nucleotide-gated cation channel subunits from rat pineal gland. Brain Res. Mol. Brain Res. 48: 171-175.
2. Sautter, A., et al. 1998. An isoform of the rod photoreceptor cyclic necleotide-gated channel beta subunit expressed in olfactory neurons. Proc. Natl. Acad. Sci. USA 95: 4696-4701.
3. Biel, M., et al. 1999. Selective loss of cone function in mice lacking the-cyclic nucleotide-gated channel CNG3. Proc. Natl. Acad. Sci. USA 96: 7553-7557.
4. Yao, X., et al. 1999. Rod-type cyclic nucleotide-gated cation channel is expressed in vascular endothelium and vascular smooth muscle cells. Cardiovasc. Res. 41: 282-290.
5. Gerstner, A., et al. 2000. Molecular cloning and functional characterization of a new modulatory cyclic nucleotide-gated channel subunit from mouse retina. J. Neurosci. 20: 1324-1332.
6. Vitalis, E.A., et al. 2000. Role of the cAMP signaling pathway in the regulation of gonadotropin-releasing hormone secretion in GT1 cells. Proc. Natl. Acad. Sci. USA 97: 1861-1866.
7. Pentia, D.C., et al. 2006. The glutamic acid-rich protein-2 (GARP2) is a high affinity rod photoreceptor phosphodiesterase (PDE6)-binding protein that modulates its catalytic properties. J. Biol. Chem. 281: 5500-5505.
8. Song, Y., et al. 2008. Olfactory CNG channel desensitization by Ca^{2+}/CaM via the B1b subunit affects response termination but not sensitivity to recurring stimulation. Neuron 58: 374-386.

CHROMOSOMAL LOCATION

Genetic locus: CNGB1 (human) mapping to 16q21; Cnga1 (mouse) mapping to 5 C3.2.

SOURCE

CNG-1 (H-77) is a rabbit polyclonal antibody raised against amino acids 1069-1145 mapping near the C-terminus of CNG-1β of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CNG-1β (H-77) is recommended for detection of CNG-1β, isoforms RCNC2A and RCNC2B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

CNG-1β (H-77) is also recommended for detection of CNG-1β, isoforms RCNC2A and RCNC2B in additional species, including equine.

Suitable for use as control antibody for CNG-1β siRNA (h): sc-42397, CNG-1β shRNA Plasmid (h): sc-42397-SH and CNG-1β shRNA (h) Lentiviral Particles: sc-42397-V.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.