



CNG-1 β (G-17): sc-13707

BACKGROUND

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

REFERENCES

1. Sautter, A., Biel, M. and Hofmann, F. 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., Zong, X., Hofmann, F. and Biel, M. 1998. An isoform of the rod photoreceptor cyclic nucleotide-gated channel beta subunit expressed in olfactory neurons. *Proc. Natl. Acad. Sci. USA* 95: 4696-4701.
3. Biel, M. Seeliger, M., Pfeifer, A., Kohler, K., Gerstner, A., Ludwig, A., Jaissle, G., Fauser, S., Zrenner, E. and Hofmann, F. 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., Leung, P.S., Kwan, H.Y., Wong, T.P. and Fong, M.W. 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., Zong, X., Hofmann, F. and Biel, M. 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., Costantin, J.L., Tsai, P., Sakakibara, H., Paruthiyil, S. Iiri, T., Martini, J., Taga, M., Choi, A.L.H., Charles, A.C. and Weiner, R.I. 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., Hosier, S. and Cote, R.H. 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., Cygnar, K.D., Sagdullaev, B., Valley, M., Hirsh, S., Stephan, A., Reiser, J. and Zhao, H. 2008. Olfactory CNG channel desensitization by Ca²⁺/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 16q13.

SOURCE

CNG-1 β (G-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CNG-1 β of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-13707 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CNG-1 β (G-17) is recommended for detection of CNG-1 β of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 CNG-1 β siRNA (h): sc-42397, CNG-1 β shRNA Plasmid (h): sc-42397-SH and CNG-1 β 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.