SANTA CRUZ BIOTECHNOLOGY, INC.

CNG-1 (T-18): sc-13694

BACKGROUND

Cyclic nucleotide-gated (CNG) cation channels are heteromeric complexes made up of principal α and modulatory β subunits. The α subunits consist of CNG1-3 and form functional cation channels by themselves. The β subunits consist of CNG4-6 and, unlike the α subunits, do not form functional channels, but rather modify the properties of channels. CNG channels are essential components of olfactory and visual transduction. In olfactory neurons, CNG-2, CNG4-3 and CNG-5 form Ca^{2+} permeable channels, which open and depolarize the cell in response to cAMP. In rod photoreceptors, CNG-1 and CNG4-1 combine to form Ca ion permeable channels, which give rise to a current in response to cGMP. CNG-3 and CNG-6 are expressed in cone receptors and may combine to form a native cGMP-activated channel. CNG channels have been implicated in other areas. CNG-1 is also expressed in medium-sized and small-sized arteries, suggesting a role for CNG in the regulation of arterial blood pressure and of blood supply to different regions. CNG-1, CNG4-1 and CNG4-2 have been detected in the rat pineal gland. CNG-2, CNG4-3 and CNG-5 are present in GT1 cell lines and may play a role in the secretion of gonadotropin-releasing hormone.

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 β 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.

CHROMOSOMAL LOCATION

Genetic locus: Cnga1 (mouse) mapping to 5 C3.2.

SOURCE

CNG-1 (T-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CNG-1 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-13694 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

CNG-1 (T-18) is recommended for detection of CNG-1 of mouse and rat 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-1 (T-18) is also recommended for detection of CNG-1 in additional species, including canine and porcine.

Suitable for use as control antibody for CNG-1 siRNA (m): sc-42392, CNG-1 shRNA Plasmid (m): sc-42392-SH and CNG-1 shRNA (m) Lentiviral Particles: sc-42392-V.

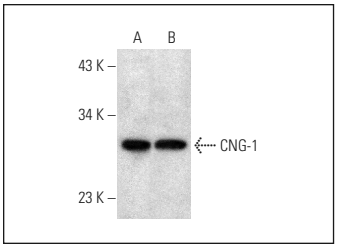
Molecular Weight of CNG-1: 30 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214 or PC-12 cell lysate: sc-2250.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



CNG-1 (T-18): sc-13694. Western blot analysis of CNG-1 expression in KNRK (**A**) and PC-12 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yamashita, T., et al. 2009. Essential and synergistic roles of RP1 and RP1L1 in rod photoreceptor axoneme and retinitis pigmentosa. J. Neurosci. 29: 9748-9760.
2. Cheng, Y.C., et al. 2009. Lipopolysaccharide upregulates uPA, MMP-2 and MMP-9 via ERK1/2 signaling in H9c2 cardiomyoblast cells. Mol. Cell. Biochem. 325: 15-23.
3. Ying, M., et al. 2015. Drug-inducible synergistic gene silencing with multiple small hairpin RNA molecules for gene function study in animal model. Transgenic Res. 24: 309-317.