



## CNG-2 (T-17): sc-13699

### BACKGROUND

Cyclic nucleotide-gated (CNG) cation channels are heteromeric complexes made up of principal alpha and modulatory beta subunits. The alpha subunits consist of CNG1-3 and form functional cation channels by themselves. The beta subunits consist of CNG4-6 and, unlike the alpha 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  $\text{Ca}^{2+}$  permeable channels, which open and depolarize the cell in response to cAMP. In rod photoreceptors, CNG-1 and CNG4-1 combine to form  $\text{Ca}$  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 nucleotide-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.

### CHROMOSOMAL LOCATION

Genetic locus: CNGA2 (human) mapping to Xq28; Cnga2 (mouse) mapping to X A6.

### SOURCE

CNG-2 (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of CNG-2 of mouse origin.

### STORAGE

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

### 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-13699 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

CNG-2 (T-17) is recommended for detection of CNG-2 of mouse and rat 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-2 siRNA (m): sc-42394.

Molecular Weight of CNG-2: 83 kDa.

Positive Controls: rat brain extract: sc-2392.

### 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.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.