Product Specification Sheet

Cyclic Nucleotide-Gated Channels 2 (CNG2) Antibodies

Cat. # CNG22-P	Rat CNG2 Control Peptide # 2	**SIZE**: 100 ug
Cat. # CNG22-S	Rabbit Anti-rat CNG2 antiserum # 2	**SIZE**: 100 ul
Cat. # CNG22-A	Rabbit Anti-rat CNG2 Ig G (aff pure) # 2	**SIZE**: 100 ug

The cyclic nucleotides cAMP and cGMP are implicated in signal transduction events such as the visual transduction, relaxation of smooth muscles, intestinal secretion of water and salt, reabsorption of Na+ and water in the distal tubule of the nephrons. cAMP/cGMP activate Ca2+ -permeable ion channels called cyclic nucleotide-gated channels (CNG or CNC). Activation of CNG leads to depolarization of the membrane voltage and to a concomitant increase of the cytosolic Ca2+. CNG consists of two distinct subunits, designated α and β subunits. Several CNG α-subunits (**CNGα 1-3**) & beta subunits (subunit 2 or CNGβ1-2 or **CNG4-5**) and numerous isoforms. α-subunit can form functional channel by themselves, whereas, β-subunits modulate the channel property of α-subunits. CNG display intracellular N and C-termini, 6 transmembrane domains or segments (S1-S6). The region between S5 and S6 contains the ion-conducting pore (P). The cyclic nucleotide-binding region is found at the c-terminus. Native functional CNG may exists as heteromultimer containing some combination of α, and β subunits.

CNG2 or OCNC1 (rat/mouse/rabbit 664 aa, bovine 663 aa) is primarily expressed in olfactory sensory neurons. It is ~80% homologous with CNG1. Unlike CNG1, CNG2 is activated both by cAMP and cGMP. Another cGMP-gated channel called **CNG3** (mouse 537 aa, rat 611 aa, human, 694 aa, bovine 706 aa, chicken 645 aa) has been cloned from heart, kidney, testis, sperm, and taste buds. Deletion of CNG3 gene in mice leads of degeneration of cone photoreceptors.

Source of Antigen and Antibodies

Antigen	19aa peptide of rat/ mouse CNG2 ; **Designated (CNG22-P or control peptide /blocking peptide**) conjugated to KLH; **Epitope location**~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (**#CNG22-S**) and IgG, purified over antigen-agarose (Cat # **CNG22-A**)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL). (see published refs using this antibody in 2).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 1-20 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

Rat CNG22-P control peptide is 90% conserved in mouse, 83% in rabbit and 72% in bovine CNG2. No significant sequence homology is detected with other CNGs. Antibody cross-reactivity in various species has not been studied. The CNG22-P control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

General References: (1). Dhallan RS et al (199 Ding C et al (1990) Nature 347, 184; Ruiz ML et al (1996) Gene Accession # Q62398; Distler M et al (1994) Neuropharmacol. 33, 1275. Ludwig J (1990) FEBS Lett. 270, 24; Biel M (1993) FEBS Lett. 329, 134

2. Citations of for ADI Antibodies (see updates at the web site)

Zhang J, 2002, AJPCell. 283, C-1080C1089, WB,
Blackman BE, 2007, Endocrinology, in press, WB,

*This product is for In vitro research use only.

Related material available from ADI

CNG22-S-A-P 71217A

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