ALPHA DIAGNOSTIC INTERNATIONAL

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Product Specification Sheet

Cyclic Nucleotide-Gated Channels 3 (CNG3) Antibodies

Cat. # CNG32-P	Rat CNG3 Control Peptide # 2	**SIZE**: 100 ug
Cat. # CNG32-S	Rabbit Anti-rat CNG3 antiserum # 2	**SIZE**: 100 ul
Cat. # CNG32-A	Rabbit Anti-rat CNG3 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	20aa peptide of rat CNG3 ; **Designated (CNG32-P or control peptide).; Epitope location~ C-terminal, Cytoplasmic domain**
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat #CNG32-S) Aff pure IgG1 (**cat #CNG32-A**) purified over antigen-agarose column
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (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 technique). See refs 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

The 20 AA rat CNG32-P control peptide is 85% conserved in mouse CNG3. No significant sequence homology is detected with other CNGs. Antibody cross-reactivity in various species has not been studied. The CNG32-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). Misaka T et al (19970 J Biol. Chem. 272, 22623, Biel M et al (1999) PNAS 96, 7553, Wissinger B et al (1997) Eur. J. Neurosci. 9, 2512; Biel M et al (1994) PNAS 91, 3505; Weyand I et al (1994) Nature 368, 859

2. Citations of for ADI Antibodies (see updates at the web site)
Novaira HJ, 2004, BBA 1665, 101-110, WB,

*This product is for In vitro research use only.

Related material available from ADI

Antibodies CNG1-4; ENaCs (α, β, and γ) CLC1-7 and CLC-K1; KCCL1-3; AQP1-9 and RUT; OCT/OCTN1-3, OAT1-3, OATK1/K2, AE1-3, and NCKX1-3, NaPi and NBC1-3, NHE1-5

CNG32-S-A-P 71217A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, S an Antonio, T X 7 8 24 4 , U S A;

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400
Fax: +91-11-42208444 Email: customerservice@lifetechindia.com Website: www.lifetechindia.com