

## CNGA4 Protein, Human (Cell-Free, His, SUMO)

Cat. No.:	HY-P702253
Synonyms:	Cyclic nucleotide-gated cation channel alpha-4; Cyclic nucleotide-gated channel alpha-4; CNG channel alpha-4; CNG-4; CNG4
Species:	Human
Source:	E. coli Cell-free
Accession:	Q8IV77 (M1-E575)
Gene ID:	1262
Molecular Weight:	82 kDa

### PROPERTIES

AA Sequence	<p>MSQDTKVKTT    ESSPPAPSKA    RKLLPVLDPS    GDYYYWWLNT</p> <p>MVFPVMYNLI    ILVCRACFPD    LQHGYLVAWL    VLDYTSDDL Y</p> <p>L LDMVVRFHT    GFLEQGILVV    DKGRISRYV    RTWSFFLDLA</p> <p>S L MPTDVVYV    RLGPHTPTLR    LNRFLRAPRL    FEAFDRTE TR</p> <p>T AYPNAFRIA    KLMLYIFVVI    HWNSCLYFAL    SRYLGFG RDA</p> <p>WVYPDPAQPG    FERLRRQYLY    SFYFSTLILT    TVGDTPPPAR</p> <p>EEEYLFMVGD    FLLAVMGFAT    IMGSMSSVIY    NMNTADAAFY</p> <p>PDHALVKKYM    KLQHVNRKLE    RRVLDWYQHL    QINKKMTNEV</p> <p>A I LQHLPERL    RAEVAVSVHL    STLSRVQIFQ    NCEASLLEEL</p> <p>V L K L Q P Q T Y S    PGEYVCRKGD    IGQEMYIIRE    GQLAVVADDG</p> <p>I T Q Y A V L G A G    LYFGEISLIN    IKGNMSGNRR    TANIKSLGYS</p> <p>D L F C L S K E D L    REVLSEYPQA    QTIMEEKGRE    ILLKMNKLDV</p> <p>N A E A A E I A L Q    EATESRLRGL    DQQLDDLQTK    FARLLAELES</p> <p>S A L K I A Y R I E    RLEWQTREWP    MPEDLAEADD    EGEPEEGTSK</p> <p>D E E G R A S Q E G    PPGPE</p>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add 5-50% of glycerol (final concentration). Our default final concentration of glycerol is 50%. Customers could use it as reference.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

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## DESCRIPTION

### Background

CNGA4 protein serves as the modulatory subunit of cation-selective cyclic nucleotide-gated (CNG) channels, responding to the second messenger cAMP and inducing depolarization in olfactory sensory neurons (OSNs). These channels play a pivotal role in transducing odorant signals and subsequent adaptation, contributing to the neural response to various olfactory stimuli. CNGA4 facilitates rapid adaptation to odor stimulation by accelerating calcium-mediated negative feedback in olfactory signaling, thereby expanding the range of odor detection. The inhibitory effect of calcium-calmodulin on cAMP sensitivity involves its binding to the IQ-like motif of CNGA4, with a preference for the closed state of the channel. Additionally, the suppression of the CNG channel by PIP3 likely occurs through CGNA2 binding, highlighting the intricate regulatory mechanisms governing olfactory signal transduction.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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