LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human GNA11 Protein
Catalog Number: hRP-2476
Manufacturer: LD Biopharma, Inc.

Introduction

G proteins are composed of 3 units: alpha, beta and gamma. The protein encoded by human guanine nucleotide-binding protein subunit alpha-11 (GNA11) gene belongs to the family of guanine nucleotide-binding proteins (G proteins), which function as modulators or transducers in various trans-membrane signaling systems. GNA11 acts as an activator of phospholipase C. This gene encodes one of the alpha subunits (subunit alpha-11). Mutations in this gene have been associated with hypocalciuric hypercalcemia type II (HHC2) and hypocalcemia dominant 2 (HYPOC2). Patients with HHC2 and HYPOC2 exhibit decreased or increased sensitivity, respectively, to changes in extracellular calcium concentrations. Normally, this gene is mainly expressed in testis. Recent data indicated that anti-GNA11 auto-antibodies can be detected in many cancer patients.

Full-length human GNA11 (358 aa) gene was constructed with codon optimization gene synthesis and expressed with a human alpha Fetal Protein N-terminal (AFPn) -His-TEV cleavage site Tag (217aa) fusion at its N-terminal in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol:	GNA11 (FBH; FHH2; HHC2; HYPOC2)
Accession Number:	NP_002058
Species:	Human
Size:	10 µg / Vial
Composition:	0.10 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage:	In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 7 days.

Key References

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Staby KM, et al., *Prognostic impact of chromosomal aberrations and GNAQ, GNA11 and BAP1 mutations in uveal melanoma.* Acta Ophthalmol 96 (1), 31-38 (2018)

Psinakis F, et al.,*Uveal Melanoma: GNAQ and GNA11 Mutations in a Greek Population*. Anticancer Res. 37 (10), 5719-5726 (2017)

Offermanns S et al., *G alpha 15 and G alpha 16 couple a wide variety of receptors to phospholipase C.* J. Biol. Chem. 270 (25), 15175-15180 (1995)

Applications

1. May be used for in vitro GNA11 mediated cell signaling regulation study for various cells by intracellular delivery of this protein with protein delivery reagent such as ProFectin reagent.

2. May be used for mapping protein-protein interaction.

3. May serve as *auto-antibodies detection reagent*, which will react with sera of some auto-immnuno-diseases's or cancer patients.

4. May be used as specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.

5. As Immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLENQLPAFLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMNKFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGSHHHHHHGSENLYFQGGETLESMMACCLSDEVKESKRINAEIEKQLRRDKRDARR
ELKLLLLGTGESGKSTFIKQMRIIHGAGYSEEDKRGFTKLVYQNIFTAMQAMIRAMETLKILYK
YEQNKANALLIREVDVEKVTTFEHQYVSAIKTLWEDPGIQECYDRRREYQLSDSAKYYLTDVDR
IATLGYLPTQQDVLRVRVPTTGIIEYPFDLENIIFRMVDVGGQRSERRKWIHCFENVTSIMFLV
ALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLEDKILYSHLVDYFPE
FDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQLNLKEYNL
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