Datasheet for ABIN7547704

FLCN Protein (AA 1-579) (His tag)

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Overview

Quantity:	1 mg
Target:	FLCN
Protein Characteristics:	AA 1-579
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This FLCN protein is labelled with His tag.

Product Details

Purpose:	Custom-made recombinant FLCN Protein expressed in mammalian cells.
Sequence:	MNAIVALCHF CELHGPRTLF CTEVLHAPLP QGDGNEDSPG QGEQAEEEEG GIQMNSRMRA HSPAEGASVE SSSPGPKKSD MCEGCRSLAA GHPGYISHDK ETSIKYVSHQ HPSHPQLFSI VRQACVRSLS CEVCPGREGP IFFGDEQHGF VFSHTFFIKD SLARGFQRWY SIITIMMDRI YLINSWPFLL GKVRGIIDEL QGKALKVFEA EQFGCPQRAQ RMNTAFTPFL HQRNGNAARS LTSLTSDDNL WACLHTSFAW LLKACGSRLT EKLLEGAPTE DTLVQMEKLA DLEEESESWD NSEAEEEEKA PVLPESTEGR ELTQGPAESS SLSGCGSWQP RKLPVFKSLR HMRQVLGAPS FRMLAWHVLM GNQVIWKSRD VDLVQSAFEV LRTMLPVGCV RIIPYSSQYE EAYRCNFLGL SPHVQIPPHV LSSEFAVIVE VHAAARSTLH PVGCEDDQSL SKYEFVVTSG SPVAADRVGP TILNKIEAAL TNQNLSVDVV DQCLVCLKEE WMNKVKVLFK FTKVDSRPKE DTQKLLSILG ASEEDNVKLL KFWMTGLSKT YKSHLMSTVR SPTASESRN **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special**

Product Details

	request, please contact us.
Specificity:	If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer.
Characteristics:	Key Benefits: • Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalian cells and purified in one-step affinity chromatography • The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. If you are not interested in a full length protein, please contact us for individual protein fragments. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.
Purity:	> 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, Western Blot and analytical SEC (HPLC)
Grade:	custom-made

Target Details

Target:	FLCN
Alternative Name:	FLCN (FLCN Products)
Target Type:	Amino Acid
Background:	Folliculin (BHD skin lesion fibrofolliculoma protein) (Birt-Hogg-Dube syndrome protein),FUNCTION: Multi-functional protein, involved in both the cellular response to amino acid availability and in the regulation of glycolysis (PubMed:17028174, PubMed:18663353, PubMed:21209915, PubMed:24081491, PubMed:24095279, PubMed:31704029, PubMed:31672913, PubMed:34381247, PubMed:32612235, PubMed:36103527, PubMed:37079666). GTPase-activating protein that plays a key role in the cellular response to amino acid availability through regulation of the non-canonical mTORC1 signaling cascade controlling the MiT/TFE factors TFEB and TFE3 (PubMed:17028174, PubMed:18663353,

PubMed:21209915, PubMed:24081491, PubMed:24095279, PubMed:24448649, PubMed:31704029, PubMed:31672913, PubMed:32612235, PubMed:36103527, PubMed:37079666). Activates mTORC1 by acting as a GTPase-activating protein: specifically stimulates GTP hydrolysis by RagC/RRAGC or RagD/RRAGD, promoting the conversion to the GDP-bound state of RagC/RRAGC or RagD/RRAGD, and thereby activating the kinase activity of mTORC1 (PubMed:24095279, PubMed:31704029, PubMed:31672913, PubMed:32612235, PubMed:37079666). The GTPase-activating activity is inhibited during starvation and activated in presence of nutrients (PubMed:31672913, PubMed:32612235). Acts as a key component for non-canonical mTORC1-dependent control of the MiT/TFE factors TFEB and TFE3, while it is not involved in mTORC1-dependent phosphorylation of canonical RPS6KB1/S6K1 and EIF4EBP1/4E-BP1 (PubMed:21209915, PubMed:24081491, PubMed:31672913, PubMed:32612235). In low-amino acid conditions, the lysosomal folliculin complex (LFC) is formed on the membrane of lysosomes, which inhibits the GTPase-activating activity of FLCN, inactivates mTORC1 and maximizes nuclear translocation of TFEB and TFE3 (PubMed:31672913). Upon amino acid restimulation, RagA/RRAGA (or RagB/RRAGB) nucleotide exchange promotes disassembly of the LFC complex and liberates the GTPase-activating activity of FLCN, leading to activation of mTORC1 and subsequent cytoplasmic retention of TFEB and TFE3 (PubMed:31672913). Indirectly acts as a positive regulator of Wnt signaling by promoting mTOR-dependent cytoplasmic retention of MiT/TFE factor TFE3 (PubMed:31272105). Required for the exit of hematopoietic stem cell from pluripotency by promoting mTOR-dependent cytoplasmic retention of TFE3, thereby increasing Wnt signaling (PubMed:30733432). Acts as an inhibitor of browning of adipose tissue by regulating mTOR-dependent cytoplasmic retention of TFE3 (By similarity). Involved in the control of embryonic stem cells differentiation, together with LAMTOR1 it is necessary to recruit and activate RagC/RRAGC and RagD/RRAGD at the lysosomes, and to induce exit of embryonic stem cells from pluripotency via non-canonical, mTOR-independent TFE3 inactivation (By similarity). In response to flow stress, regulates STK11/LKB1 accumulation and mTORC1 activation through primary cilia: may act by recruiting STK11/LKB1 to primary cilia for activation of AMPK resided at basal bodies, causing mTORC1 down-regulation (PubMed:27072130). Together with FNIP1 and/or FNIP2, regulates autophagy: following phosphorylation by ULK1, interacts with GABARAP and promotes autophagy (PubMed:25126726). Required for starvation-induced perinuclear clustering of lysosomes by promoting association of RILP with its effector RAB34 (PubMed:27113757). Regulates glycolysis by binding to lactate dehydrogenase LDHA, acting as an uncompetitive inhibitor (PubMed:34381247). {ECO:0000250|UniProtKB:Q8QZS3, ECO:0000269|PubMed:17028174, ECO:0000269|PubMed:18663353, ECO:0000269|PubMed:21209915, ECO:0000269|PubMed:24081491,

Target Details

	ECO:0000269|PubMed:24095279, ECO:0000269|PubMed:24448649, ECO:0000269|PubMed:25126726, ECO:0000269|PubMed:27072130, ECO:0000269|PubMed:27113757, ECO:0000269|PubMed:30733432, ECO:0000269|PubMed:31272105, ECO:0000269|PubMed:31672913, ECO:0000269|PubMed:31704029, ECO:0000269|PubMed:32612235, ECO:0000269|PubMed:34381247, ECO:0000269|PubMed:36103527, ECO:0000269|PubMed:37079666}.
Molecular Weight:	64.5 kDa
UniProt:	Q8NFG4
Pathways:	Cell-Cell Junction Organization

Application Details

Application Notes:	We expect the protein to work for functional studies. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months

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