Recombinant FLCN protein (His tag)

Catalog Number	543191
Synonyms	BHD skin lesion fibrofolliculoma protein; Birt-Hogg-Dube syndrome protein
Species	Human
Expression System	E. coli
Accession	Q8NFG4
Molecular Weight	Predictes a molecular mass of 28.16 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 28 kDa band.

Product Information

Sequence Region	344-579
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 344-579 aa (Q8NFG4) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Folliculin Fragment (aa 344-579) - A highly purified protein fragment encompassing the dDENN FLCN/SMCR8-type functional domain. This product provides researchers with a targeted tool for investigating the specific molecular functions of folliculin's key regulatory domains in cellular signaling pathways. Folliculin (FLCN) is a multi-functional protein encoded by the FLCN gene that plays critical roles in cellular response to amino acid availability and regulation of glycolysis. As a GTPase-activating protein, it serves as a key regulator of the non-canonical mTORC1 signaling cascade, controlling the MiT/TFE factors TFEB and TFE3. The protein activates mTORC1 by stimulating GTP hydrolysis by RagC/RRAGC or RagD/RRAGD, with this activity being nutrient-responsive - inhibited during starvation and activated in nutrient-rich conditions. Folliculin is essential for non-canonical mTORC1-dependent control of TFEB and TFE3 localization, indirectly regulates Wnt signaling, participates in hematopoietic and embryonic stem cell differentiation, controls autophagy, and inhibits lactate dehydrogenase LDHA to regulate glycolysis. The protein exhibits dynamic subcellular localization, primarily found on lysosome membranes during amino acid depletion and relocalizing to the cytosol upon refeeding, with additional presence in cilia, centrosomes, the mitotic spindle, and nucleus, reflecting its diverse functional roles in cellular homeostasis and signaling pathways.