Recombinant LRC8D protein (His tag)

Catalog Number	545285
Synonyms	Leucine-rich repeat-containing protein 5; Leucine-rich repeat-containing protein 8D; HsLRRC8D
Species	Human
Expression System	E. coli
Accession	Q7L1W4
Molecular Weight	Predictes a molecular mass of 55.99 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 56 kDa band.

Product Information

Sequence Region	387-858
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 387-858 aa (Q7L1W4) 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 LRRC8D (387-858) is a high-purity, stable protein fragment derived from the Volume-regulated anion channel subunit LRRC8D. This 472-amino acid fragment is designed for structural and biochemical studies, offering researchers a soluble and functional unit to investigate the role of LRRC8D in cellular volume regulation, osmotic stress response, and drug transport mechanisms. The full-length LRRC8D protein is a non-essential component of the volume-regulated anion channel (VRAC), which is critical for maintaining cell volume in response to osmotic changes. VRAC channels, formed by LRRC8A in combination with LRRC8B, C, D, or E, conduct anions such as iodide and chloride, as well as organic osmolytes like taurine. LRRC8D plays a redundant role in the efflux of amino acids during osmotic stress and, together with LRRC8A, is required for the uptake of cisplatin and the antibiotic blasticidin-S. It also regulates glucose-sensing in pancreatic beta cells by depolarizing cells in response to swelling, enhancing insulin secretion. Additionally, VRAC channels containing LRRC8D inhibit the transport of the immune messenger 2'-3'-cGAMP. LRRC8D localizes to the cell membrane and endoplasmic reticulum, with its membrane expression dependent on LRRC8A. This recombinant fragment provides a valuable tool for elucidating the structure-function relationships of LRRC8D in these diverse physiological and pathological processes.