Recombinant DRC9 protein (His tag)

Catalog Number	545894
Synonyms	IQ domain-containing protein G
Species	Human
Expression System	E. coli
Accession	Q9H095
Molecular Weight	Predictes a molecular mass of 30.91 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 36 kDa band.

Product Information

Sequence Region	161-403
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, 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 161-403 aa (Q9H095) 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	Introducing the recombinant human Dynein regulatory complex protein 9 (IQCG) fragment (residues 161-403), a highly stable and soluble protein unit ideal for investigating ciliary motility regulation and calcium-dependent signaling pathways. This fragment has been computationally optimized for structural and biochemical studies, offering researchers a reliable tool to explore axonemal integrity and sperm flagellar function. Dynein regulatory complex protein 9 (IQCG) is a critical component of the nexin-dynein regulatory complex (N-DRC), which plays a pivotal role in regulating ciliary and flagellar motility by maintaining axonemal alignment and controlling microtubule sliding. Beyond its structural contributions, IQCG binds calmodulin under low calcium conditions, thereby modulating calcium/calmodulin-dependent protein kinase IV (CAMK4) activity and associated signaling cascades. It is essential for proper sperm flagella assembly, tail formation, and male fertility. Subcellularly, IQCG localizes to the cytoplasm, cytoskeleton, and specifically to cilia and flagella axonemes, with expression observed in developing spermatocytes, spermatids, and mature spermatozoa, as well as in tracheal and oviduct cilia, underscoring its broad relevance in cellular motility and signaling processes.