Recombinant BN3D2 protein (His tag)

Catalog Number	540607
Synonyms	BCDIN3 domain-containing protein
Species	Human
Expression System	E. coli
Accession	Q7Z5W3
Molecular Weight	Predictes a molecular mass of 34.86 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 35 kDa band.

Product Information

Sequence Region	1-292
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 1-292 aa (Q7Z5W3) 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 BCDIN3D (RNA 5'-monophosphate methyltransferase) fragment (residues 1-292) is a high-purity protein designed for functional studies. This fragment fully encompasses the Bin3-type SAM domain, making it an ideal tool for investigating tRNA and miRNA methylation mechanisms and their regulatory roles in cellular processes. BCDIN3D, also known as RNA 5'-monophosphate methyltransferase, is a cytoplasmic O-methyltransferase that specifically monomethylates the 5'-monophosphate of cytoplasmic histidyl tRNA (tRNA(His)), protecting it from cleavage by DICER1. It also methylates the 5' monophosphate of certain pre-miRNAs, thereby reducing their processing by DICER1 and acting as a negative regulator of miRNA biogenesis. This protein plays a critical role in post-transcriptional gene regulation by modulating both tRNA stability and miRNA maturation, with implications for understanding RNA metabolism and its dysregulation in disease.