Recombinant DXO protein (His tag)

Catalog Number	537339
Synonyms	DXO; 5'-3' exoribonuclease DXO; Dom-3 homolog Z; NAD-capped RNA hydrolase DXO; DeNADding enzyme DXO
Species	Human
Expression System	E. coli
Accession	O77932
Molecular Weight	Predictes a molecular mass of 46.59 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 47 kDa band.

Product Information

Sequence Region	1-396
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 1-396 aa (O77932) 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 Decapping and Exoribonuclease Protein (DXO), encompassing amino acids 1-396, is a high-purity fragment engineered for structural and biochemical studies. This stable, soluble unit retains key enzymatic activities, including NAD-cap hydrolysis and 5'-3' exoribonuclease functions, making it an essential tool for investigating RNA decay mechanisms and capping quality control. The full-length DXO protein in Homo sapiens is a multifunctional nuclear enzyme critical for RNA metabolism. It specifically removes nicotinamide adenine dinucleotide (NAD) caps from a subset of RNAs, promoting their decay, particularly under environmental stress. DXO also acts as a non-canonical decapping enzyme, degrading incompletely capped or defective m7G-capped pre-mRNAs as part of a capping quality control pathway. Unlike traditional decappers, it releases the entire cap structure and subsequently degrades the RNA via its 5'-3' exoribonuclease activity. Additionally, DXO exhibits RNA 5'-pyrophosphohydrolase function and can decap FAD- and dpCoA-capped RNAs. Its nuclear localization underscores its role in regulating RNA stability and processing within the nucleus.