Recombinant NDK3 protein (His tag)

Catalog Number	544907
Synonyms	NDK 3; NDP kinase 3; DR-nm23; Nucleoside diphosphate kinase C; NDPKC; nm23-H3
Species	Human
Expression System	E. coli
Accession	Q13232
Molecular Weight	Predictes a molecular mass of 20.67 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 21 kDa band.

Product Information

Sequence Region	1-169
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 1-169 aa (Q13232) 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 Nucleoside Diphosphate Kinase 3 (NDK 3) Fragment (residues 1-169) is a high-purity protein designed for structural and biochemical studies. This fragment, encompassing the full-length domain, retains key functional properties, including nucleoside diphosphate phosphorylation and mitochondrial membrane association, making it an ideal tool for investigating nucleotide homeostasis, DNA repair mechanisms, and mitochondrial dynamics. Nucleoside Diphosphate Kinase 3 (NDK 3), encoded by the NME3 gene in Homo sapiens, catalyzes the phosphorylation of ribonucleoside and deoxyribonucleoside diphosphates into triphosphates using ATP as a phosphate donor. This reaction, mediated via a ping-pong mechanism, regulates intracellular nucleotide homeostasis. Beyond its kinase activity, NDK 3 facilitates mitochondrial tethering and membrane fusion through direct membrane binding and hexamerization. It is also implicated in DNA repair by associating with the ribonucleotide reductase complex and recruiting to DNA damage sites via interaction with histone acetyltransferase KAT5. Additionally, NDK 3 inhibits granulocyte differentiation and may support ciliary function during renal development. The protein localizes primarily to the mitochondrial outer membrane as a peripheral membrane protein, with additional presence in the cytoplasm and at the cilium basal body, underscoring its roles in cellular energy metabolism, organelle dynamics, and genomic stability.