

Recombinant EIF4A3 protein

Catalog No: 81218, 81918

Expressed In: *E. coli*

Quantity: 50, 1000 µg

Concentration: 0.3 µg/µl

Source: Human

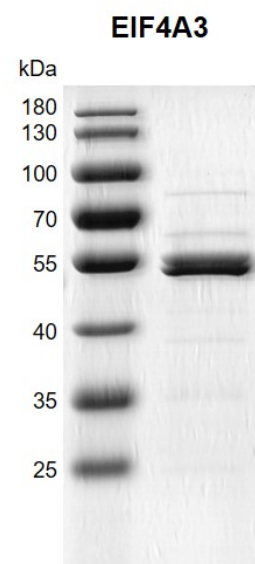
Buffer Contents: Recombinant EIF4A3 protein is supplied in 25 mM Tris-HCl pH 7.4, 300 mM NaCl, 5% glycerol, 0.1% Triton X-100.

Background: EIF4A3 (Eukaryotic Translation Initiation Factor 4A, Isoform 3), also called as DDX48, NUK34 or RCPS, is a ATP-dependent RNA helicase, which is involved in pre-mRNA splicing as component of the spliceosome. It's a core component of the splicing-dependent multiprotein exon junction complex (EJC) deposited at splice junctions on mRNAs. The EJC is a dynamic structure consisting of core proteins and several peripheral nuclear and cytoplasmic associated factors that join the complex only transiently either during EJC assembly or during subsequent mRNA metabolism. The EJC marks the position of the exon-exon junction in the mature mRNA for the gene expression machinery and the core components remain bound to spliced mRNAs throughout all stages of mRNA metabolism thereby influencing downstream processes including nuclear mRNA export, subcellular mRNA localization, translation efficiency and nonsense-mediated mRNA decay (NMD). The RNA-dependent ATPase and RNA-helicase activities of EIF4A3 are induced by CASC3, but abolished in presence of the MAGOH-RBM8A heterodimer, thereby trapping the ATP-bound EJC core onto spliced mRNA in a stable conformation. This protein is involved in translational enhancement of spliced mRNAs after formation of the 80S ribosome complex. EIF4A3 binds spliced mRNA in sequence-independent manner, 20-24 nucleotides upstream of mRNA exon-exon junctions. And it shows higher affinity for single-stranded RNA in an ATP-bound core EJC complex than after the ATP is hydrolyzed.

Protein Details: Recombinant EIF4A3 protein was expressed in *E. coli* as the full length protein (accession number NP_055555.1) with an N-terminal 6×His tag. The molecular weight of the protein is 50.4 kDa.

Application Notes: This product was manufactured as described in Protein Details. Where possible, Active Motif has developed functional or activity assays for recombinant proteins. Additional characterization such as enzyme kinetic activity assays, inhibitor screening or other biological activity assays may not have been performed for every product. All available data this product is shown.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.



Recombinant EIF4A3 protein gel
10% SDS-PAGE gel
MW: 50.4 kDa
Purity: >90%