

Recombinant Mouse Ddx21 Protein, Myc/DDK-tagged

Cat. No. Ddx21-2502M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length DEAD (Asp-Glu-Ala-Asp) box polypeptide 21 (Ddx21), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	RNA helicase that acts as a sensor of the transcriptional status of both RNA polymerase (Pol) I and II: promotes ribosomal RNA (rRNA) processing and transcription from polymerase II (Pol II). Binds various RNAs, such as rRNAs, snoRNAs, 7SK and, at lower extent, mRNAs. In the nucleolus, localizes to rDNA locus, where it directly binds rRNAs and snoRNAs, and promotes rRNA transcription, processing and modification. Required for rRNA 2'-O-methylation, possibly by promoting the recruitment of late-acting snoRNAs SNORD56 and SNORD58 with pre-ribosomal complexes. In the nucleoplasm, binds 7SK RNA and is recruited to the promoters of Pol II-transcribed genes: acts by facilitating the release of P-TEFb from inhibitory 7SK snRNP in a manner that is dependent on its helicase activity, thereby promoting transcription of its target genes. Functions as cofactor for JUN-activated transcription: required for phosphorylation of JUN at 'Ser-77'. Can unwind double-stranded RNA (helicase) and can fold or introduce a secondary structure to a single-stranded RNA (foldase). Together with SIRT7, required to prevent R-loop-associated DNA damage and transcription-associated genomic instability: deacetylation by SIRT7 activates the helicase activity, thereby overcoming R-loop-mediated stalling of RNA polymerases. Involved in rRNA processing. May bind to specific miRNA

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hairpins. Component of a multi-helicase-TICAM1 complex that acts as a cytoplasmic sensor of viral double-stranded RNA (dsRNA) and plays a role in the activation of a cascade of antiviral responses including the induction of proinflammatory cytokines via the adapter molecule TICAM1.

Molecular Mass	93.5 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Ddx21 DExD box helicase 21 [<i>Mus musculus</i> (house mouse)]
Official Symbol	Ddx21
Synonyms	DDX21; DEAD (Asp-Glu-Ala-Asp) box polypeptide 21; nucleolar RNA helicase 2; RH II/Gu; gu-alpha; RH-II/Gualpha; DEAD box protein 21; nucleolar RNA helicase Gu; nucleolar RNA helicase II; DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 21 (RNA helicase II/Gu); AI255159; AL022742; D10Wsu42e; D10Ertd645e
Gene ID	56200

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mRNA Refseq	NM_019553
Protein Refseq	NP_062426
UniProt ID	Q9JIK5

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