

DDX21 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP17238a**Specification**

DDX21 Antibody (N-term) Blocking Peptide - Product InformationPrimary Accession [Q9NR30](#)**DDX21 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 9188**Other Names**

Nucleolar RNA helicase 2, DEAD box protein 21, Gu-alpha, Nucleolar RNA helicase Gu, Nucleolar RNA helicase II, RH II/Gu, DDX21

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

DDX21 Antibody (N-term) Blocking Peptide - Protein Information**Name** DDX21**Function**

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) (PubMed:25470060, PubMed:28790157). Binds various RNAs, such as rRNAs, snoRNAs, 7SK and, at lower extent, mRNAs (PubMed:25470060). 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 (PubMed:25470060, PubMed:25477391). 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 (PubMed:25470060). Functions as a cofactor for JUN-activated transcription: required for phosphorylation of JUN at 'Ser-77' (PubMed:25470060).

[11823437](http://www.uniprot.org/citations/11823437), PubMed: [25260534](http://www.uniprot.org/citations/25260534)). Can unwind double-stranded RNA (helicase) and can fold or introduce a secondary structure to a single-stranded RNA (foldase) (PubMed: [9461305](http://www.uniprot.org/citations/9461305)). 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 (PubMed: [28790157](http://www.uniprot.org/citations/28790157)). Involved in rRNA processing (PubMed: [14559904](http://www.uniprot.org/citations/14559904), PubMed: [18180292](http://www.uniprot.org/citations/18180292)). May bind to specific miRNA hairpins (PubMed: [28431233](http://www.uniprot.org/citations/28431233)). 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 pro-inflammatory cytokines via the adapter molecule TICAM1 (By similarity).

Cellular Location

Nucleus, nucleolus. Nucleus, nucleoplasm. Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q9JIK5}. Mitochondrion {ECO:0000250|UniProtKB:Q9JIK5}. Note=Present both in nucleolus and nucleoplasm. Interaction with JUN promotes translocation from the nucleolus to the nucleoplasm (PubMed:11823437, PubMed:18180292) Interaction with WDR46 is required for localization to the nucleolus (PubMed:23848194). Colocalizes in the cytosol with DDX1, DHX36 and TICAM1. The multi-helicase-TICAM1 complex may translocate to the mitochondria upon poly(I:C) RNA ligand stimulation (By similarity) {ECO:0000250|UniProtKB:Q9JIK5, ECO:0000269|PubMed:11823437, ECO:0000269|PubMed:18180292, ECO:0000269|PubMed:23848194}

DDX21 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

DDX21 Antibody (N-term) Blocking Peptide - Images

DDX21 Antibody (N-term) Blocking Peptide - Background

DEAD box proteins, characterized by the conserved motif Asp-Glu-Ala-Asp (DEAD), are putative RNA helicases. They are implicated in a number of cellular processes involving alteration of RNA secondary structure such as translation initiation, nuclear and mitochondrial splicing, and ribosome and spliceosome assembly. Based on their distribution patterns, some members of this family are believed to be involved in embryogenesis, spermatogenesis, and cellular growth and division. This gene encodes a DEAD box protein, which is an antigen recognized by autoimmune antibodies from a patient with watermelon stomach disease. This protein unwinds double-stranded RNA, folds single-stranded RNA, and may play important roles in ribosomal RNA biogenesis, RNA editing, RNA transport, and general transcription.

DDX21 Antibody (N-term) Blocking Peptide - References

Holmstrom, T.H., et al. J. Biol. Chem. 283(11):7046-7053(2008) Sugiyama, N., et al. Mol. Cell Proteomics 6(6):1103-1109(2007) Ewing, R.M., et al. Mol. Syst. Biol. 3, 89 (2007) :Olsen, J.V., et al. Cell 127(3):635-648(2006) Nousiainen, M., et al. Proc. Natl. Acad. Sci. U.S.A. 103(14):5391-5396(2006)