10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DDX11 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11556b

Product Information

Application	FC, WB, E
Primary Accession	Q96FC9
Other Accession	NP_689651.1, NP_004390.3
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB17677
Calculated MW	108313
Antigen Region	819-847

Additional Information

Gene ID	1663
Other Names	Probable ATP-dependent RNA helicase DDX11, CHL1-related protein 1, hCHLR1, DEAD/H box protein 11, Keratinocyte growth factor-regulated gene 2 protein, KRG-2, DDX11, CHL1, CHLR1, KRG2
Target/Specificity	This DDX11 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 819-847 amino acids from the C-terminal region of human DDX11.
Dilution	FC~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DDX11 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DDX11 (HGNC:2736)
Function	DNA-dependent ATPase and ATP-dependent DNA helicase that participates in various functions in genomic stability, including DNA replication, DNA

repair and heterochromatin organization as well as in ribosomal RNA synthesis (PubMed:10648783, PubMed:21854770, PubMed:23797032, PubMed:26089203, PubMed:26503245). Its double-stranded DNA helicase activity requires either a minimal 5'-single-stranded tail length of approximately 15 nt (flap substrates) or 10 nt length single- stranded gapped DNA substrates of a partial duplex DNA structure for helicase loading and translocation along DNA in a 5' to 3' direction (PubMed:10648783, PubMed:18499658, PubMed:22102414). The helicase activity is capable of displacing duplex regions up to 100 bp, which can be extended up to 500 bp by the replication protein A (RPA) or the cohesion CTF18-replication factor C (Ctf18-RFC) complex activities (PubMed:18499658). Also shows ATPase- and helicase activities on substrates that mimic key DNA intermediates of replication, repair and homologous recombination reactions, including forked duplex, anti- parallel G-quadruplex and three-stranded D-loop DNA molecules (PubMed:22102414, PubMed:26503245). Plays a role in DNA double-strand break (DSB) repair at the DNA replication fork during DNA replication recovery from DNA damage (PubMed:23797032). Recruited with TIMELESS factor upon DNA-replication stress response at DNA replication fork to preserve replication fork progression, and hence ensure DNA replication fidelity (PubMed:26503245). Also cooperates with TIMELESS factor during DNA replication to regulate proper sister chromatid cohesion and mitotic chromosome segregation (PubMed:17105772, PubMed:18499658, PubMed:20124417, PubMed:23116066, PubMed:23797032). Stimulates 5'-single-stranded DNA flap endonuclease activity of FEN1 in an ATP- and helicase-independent manner; and hence it may contribute in Okazaki fragment processing at DNA replication fork during lagging strand DNA synthesis (PubMed:18499658). Its ability to function at DNA replication fork is modulated by its binding to long non-coding RNA (lncRNA) cohesion regulator non-coding RNA DDX11-AS1/CONCR, which is able to increase both DDX11 ATPase activity and binding to DNA replicating regions (PubMed:27477908). Also plays a role in heterochromatin organization (PubMed:21854770). Involved in rRNA transcription activation through binding to active hypomethylated rDNA gene loci by recruiting UBTF and the RNA polymerase Pol I transcriptional machinery (PubMed:26089203). Plays a role in embryonic development and prevention of aneuploidy (By similarity). Involved in melanoma cell proliferation and survival (PubMed:23116066). Associates with chromatin at DNA replication fork regions (PubMed:27477908). Binds to single- and double-stranded DNAs (PubMed:18499658, PubMed:22102414, PubMed:9013641).

Cellular Location

Nucleus. Nucleus, nucleolus. Cytoplasm, cytoskeleton, spindle pole. Midbody Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=During the early stages of mitosis, localizes to condensed chromatin and is released from the chromatin with progression to metaphase. Also localizes to the spindle poles throughout mitosis and at the midbody at later stages of mitosis (metaphase to telophase) (PubMed:17105772). In interphase, colocalizes with nucleolin in the nucleolus (PubMed:26089203)

Tissue Location

Expressed in melanoma cells. Not detected in epidermal melanocytes of normal skin (at protein level) (PubMed:23116066). Highly expressed in spleen, B-cells, thymus, testis, ovary, small intestine and pancreas (PubMed:9013641). Very low expression seen in brain (PubMed:9013641). Expressed in dividing cells and/or cells undergoing high levels of recombination (PubMed:9013641) No expression detected in cells signaled to terminally differentiate (PubMed:9013641). Expressed weakly in keratinocytes (PubMed:8798685)

Background

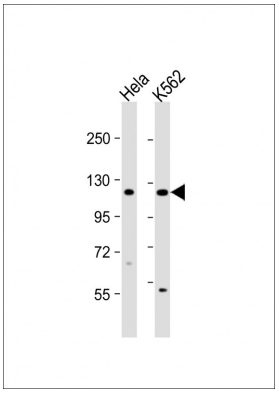
DEAD box proteins, characterized by the conserved motif Asp-Glu-Ala-Asp (DEAD), are putative RNA

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 enzyme that possesses both ATPase and DNA helicase activities. This gene is a homolog of the yeast CHL1 gene, and may function to maintain chromosome transmission fidelity and genome stability. Alternative splicing results in multiple transcript variants encoding distinct isoforms.

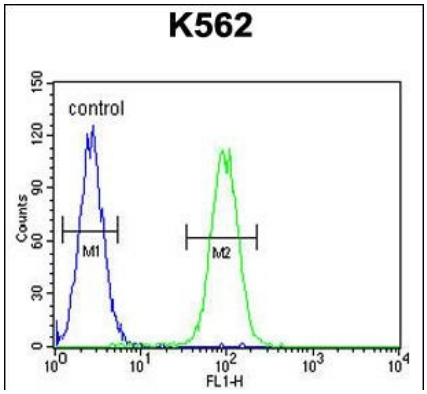
References

Leman, A.R., et al. J. Cell. Sci. 123 (PT 5), 660-670 (2010) :
Farina, A., et al. J. Biol. Chem. 283(30):20925-20936(2008)
Parish, J.L., et al. Mol. Cell 24(6):867-876(2006)
Parish, J.L., et al. J. Cell. Sci. 119 (PT 23), 4857-4865 (2006) :
Vasa-Nicotera, M., et al. Am. J. Hum. Genet. 76(1):147-151(2005)

Images



All lanes : Anti-DDX11 Antibody (C-term) at 1:1000 dilution Lane 1: Hela whole cell lysate Lane 2: K562 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 108 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



DDX11 Antibody (C-term) (Cat. #AP11556b) flow cytometric analysis of K562 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.