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KRG2/DDX11 Rabbit pAb

Catalog # AP97759

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q96FC9
Other Accession	Q96FC9
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	108313
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human KRG2/DDX11
Epitope Specificity	251-350/970
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the DEAD box helicase family. DEAH subfamily. DDX11/CHL1 sub-subfamily.
SUBUNIT	Associates with the CTF18-RFC complex. Associates with a cohesin complex composed of RAD21, SMC1 proteins and SMC3. Interacts with CHTF18. Interacts with DSCC1. Interacts with FEN1; this interaction is direct and increases flap endonuclease activity of FEN1. Interacts with PCNA. Interacts with POLR1A and UBTF. Interacts with RAD21, SMC1 proteins and SMC3. Interacts with RFC2. Interacts with TIMELESS; this interaction increases recruitment of both proteins onto chromatin in response to replication stress induction by hydroxyurea. (Microbial infection) Interacts with bovine papillomavirus type 1 regulatory protein E2; this interaction stimulates the recruitment of E2 onto mitotic chromosomes.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	1663

Other Names	CHL1; CHLR1; KRG2; WABS; DDX11_HUMAN; DDX11; CHL1-related protein 1 (hCHLR1); DEAD/H-box protein 11; DNA 5'-3' helicase DDX11; Keratinocyte growth factor-regulated gene 2 protein (KRG-2); 5.6.2.3; DEAD/H-box helicase 11; DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 11 (S.cerevisiae CHL1-like helicase); DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 11; DEAD/H (Asp-Glu-Ala-Asp/His) box helicase 11; CHL1-like helicase homolog (S. cerevisiae); Keratinocyte growth factor-regulated gene 2; Warsaw Breakage Syndrome
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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)

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