

DDX58 Protein, Human (His)

Cat. No.:	HY-P72170
Synonyms:	Antiviral innate immune response receptor RIG-I; DEAD box protein 58; RLR-1; RIG-I
Species:	Human
Source:	E. coli
Accession:	O95786 (M1-L430)
Gene ID:	23586
Molecular Weight:	Approximately 53.3 kDa

PROPERTIES

AA Sequence

MTTEQRRSLQ	AFQDYIRKTL	DPTYILSYMA	PWFREEEVQY
IQA EKNNKGP	MEAATLFLKF	LLELQEEGWF	RGFLDALDHA
GYSGLYEAEI E	SWDFKKIEKL	EEYRLLKRL	QPEFKTRIIP
TDIISDLSEC	LINQEC EIL	QICSTKGMMA	GAEKLVECLL
RSDKENWPKT	LKLAL EKERN	KFSELWIVEK	GIKDVETEDL
EDKMETSDIQ	IFYQEDPECQ	NLSENSCPPS	EVSDTNLYSP
FKPRNYQLEL	ALPAMKGKNT	IICAPTGC GK	TFVSL LIC EH
HLKKFPQGQK	GKVVFFANQI	PVYEQQKSVF	SKYFERHGYR
VTGISGATAE	NVPVEQIVEN	NDI I I LTPQI	LVNNLKKGTI
PSLSIF TLM I	FDECHNTSKQ	HPYNMIMFNY	LDQKLG GSSG
PLPQVIGLTA	SVGVGDAKNT	DEALDYICKL	

Appearance Lyophilized powder.

Formulation Lyophilized from a 0.2 µm solution of 10 mM Tris-HCl, 1 mM EDTA, 6% Trehalose, pH 8.0.

Endotoxin Level <1 EU/µg, determined by LAL method.

Reconstitution It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH₂O.

Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

DDX58 protein serves as an innate immune receptor crucial for detecting cytoplasmic viral nucleic acids, initiating a downstream signaling cascade that leads to the production of type I interferons and pro-inflammatory cytokines. It forms a

ribonucleoprotein complex with viral RNAs, promoting homooligomerization into filaments. This oligomerization facilitates the recruitment of RNF135, an E3 ubiquitin-protein ligase, which amplifies RIG-I-mediated antiviral signaling. Upon activation, DDX58 associates with MAVS/IPS1, activating TBK1 and IKKε kinases, leading to the phosphorylation of IRF3 and IRF7. This activation prompts the transcription of antiviral immunological genes, including interferons IFN-α and IFN-β. DDX58 recognizes various viral RNA ligands, such as 5'-triphosphorylated ssRNAs and dsRNAs, with the 5'-triphosphate moiety and blunt-end base pairing being crucial for its activity. The protein detects a broad range of RNA viruses and plays a role in antiviral signaling against dsDNA-containing viruses, such as Epstein-Barr virus. Additionally, it participates in granulocyte production, differentiation, bacterial phagocytosis, and the regulation of cell migration.

Caution: Product has not been fully validated for medical applications. For research use only.

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