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Datasheet for ABIN3078828  
**DDX58 Protein (AA 1-925) (Strep Tag)**

### Overview

Quantity:	1 mg
Target:	DDX58
Protein Characteristics:	AA 1-925
Origin:	Human
Source:	Tobacco ( <i>Nicotiana tabacum</i> )
Protein Type:	Recombinant
Purification tag / Conjugate:	This DDX58 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA

### Product Details

Sequence: MTTEQRRSLQ AFQDYIRKTL DPTYILSYMA PWFREEEVQY IQAEKNNKGP MEAATLFLKF  
LLELQEEGWF RGFLDALDHA GYSGLYEAIE SWDFKKIEKL EYRLLLKRL QPEFKTRIIP  
TDIISDLSEC LINQECEEIL QICSTKGMMA GAEKLVECLL RSDKENWPKT LKLAL EKERN  
KFSELWIVEK GIKDVETEDL EDKMETS DIQ IFYQEDPECQ NLENSC PPS EVSDTNLYSP  
FKPRNYQLEL ALPAMKGKNT IICAPTGCGK TFSLLICEH HLLKFPQGQK GKVVFFANQI  
PVYEQQKSVF SKYFERHGYR VTGISGATAE NVPVEQIVEN NDIILTPQI LVNNLKKGTI  
PSLSIFTLMI FDECHNTSKQ HPYNMIMFNY LDQKLGSSG PLPQVIGLTA SVGVGDAKNT  
DEALDYICKL CASLDASVIA TVKHNLEELE QVVYKPKKFF RKVESRISDK FKYIIAQLMR  
DTESLAKRIC KLENLSQIQ NREFGTQKYE QWIVTVQKAC MVFQMPDKDE ESRICKALFL  
YTSHLRKYND ALIISEHARM KDALDYLKDF FSNVRAAGFD EIEQDLTQRF EEKLQELESV  
SRDPSNENPK LEDLCFILQE EYHLNPETIT ILFVKTRALV DALKNWIEGN PKLSFLKPGI  
LTGRGKTNQN TGMTLPAQKC ILDAFKASGD HNLIATSVA DEGIDIAQCN LVILYEYVGN

VIKMIQTRGR GRARGSKCFL LTSNAGVIEK EQINMYKEKM MNDSILRLQT WDEAVFREKI  
LHIQTHEKFI RDSQEKPVPV PDKENKLLC RKCKALACYT ADVRVIEECH YTVLGDAFKE  
CFVSRPHPKP KQFSSF EKRA KIFCARQNCS HDWGIHVKYK TFEIPVIKIE SFVVEDIATG  
VQTLYSKWKD FHFEKIPFDP AEMSK

**Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**

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### Characteristics:

#### Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

#### Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

#### Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

## Product Details

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- We use the ExPASy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:	Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®): <ol style="list-style-type: none"><li>1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE.</li><li>2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.</li></ol>
Purity:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)
Grade:	Crystallography grade

## Target Details

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Target:	DDX58
Alternative Name:	RIGI ( <a href="#">DDX58 Products</a> )
Background:	Antiviral innate immune response receptor RIG-I (ATP-dependent RNA helicase DDX58) (EC 3.6.4.13) (DEAD box protein 58) (RIG-I-like receptor 1) (RLR-1) (RNA sensor RIG-I) (Retinoic acid-inducible gene 1 protein) (RIG-1) (Retinoic acid-inducible gene I protein) (RIG-I),FUNCTION: Innate immune receptor that senses cytoplasmic viral nucleic acids and activates a downstream signaling cascade leading to the production of type I interferons and pro-inflammatory cytokines (PubMed:15208624, PubMed:16125763, PubMed:15708988, PubMed:16127453, PubMed:16153868, PubMed:17190814, PubMed:18636086, PubMed:19122199, PubMed:19211564, PubMed:29117565, PubMed:28469175, PubMed:31006531, PubMed:34935440, PubMed:35263596, PubMed:36793726). Forms a ribonucleoprotein complex with viral RNAs on which it homooligomerizes to form filaments (PubMed:15208624, PubMed:15708988). The homooligomerization allows the recruitment of RNF135 an E3 ubiquitin-protein ligase that activates and amplifies the RIG-I-mediated antiviral signaling in an RNA length-dependent manner through ubiquitination-dependent and -independent mechanisms (PubMed:28469175, PubMed:31006531). Upon activation, associates with mitochondria antiviral signaling protein (MAVS/IPS1) that activates the IKK-related kinases TBK1 and IKKε which in turn phosphorylate the interferon regulatory factors IRF3 and IRF7, activating transcription of antiviral immunological genes including the IFN-α

## Target Details

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and IFN-beta interferons (PubMed:28469175, PubMed:31006531). Ligands include 5'-triphosphorylated ssRNAs and dsRNAs but also short dsRNAs (<1 kb in length) (PubMed:15208624, PubMed:15708988, PubMed:19576794, PubMed:19609254, PubMed:21742966). In addition to the 5'-triphosphate moiety, blunt-end base pairing at the 5'-end of the RNA is very essential (PubMed:15208624, PubMed:15708988, PubMed:19576794, PubMed:19609254, PubMed:21742966). Overhangs at the non-triphosphorylated end of the dsRNA RNA have no major impact on its activity (PubMed:15208624, PubMed:15708988, PubMed:19576794, PubMed:19609254, PubMed:21742966). A 3'overhang at the 5'triphosphate end decreases and any 5'overhang at the 5' triphosphate end abolishes its activity (PubMed:15208624, PubMed:15708988, PubMed:19576794, PubMed:19609254, PubMed:21742966). Detects both positive and negative strand RNA viruses including members of the families Paramyxoviridae: Human respiratory syncytial virus and measles virus (MeV), Rhabdoviridae: vesicular stomatitis virus (VSV), Orthomyxoviridae: influenza A and B virus, Flaviviridae: Japanese encephalitis virus (JEV), hepatitis C virus (HCV), dengue virus (DENV) and west Nile virus (WNV) (PubMed:21616437, PubMed:21884169). It also detects rotaviruses and reoviruses (PubMed:21616437, PubMed:21884169). Detects and binds to SARS-CoV-2 RNAs which is inhibited by m6A RNA modifications (Ref.69). Also involved in antiviral signaling in response to viruses containing a dsDNA genome such as Epstein-Barr virus (EBV) (PubMed:19631370). Detects dsRNA produced from non-self dsDNA by RNA polymerase III, such as Epstein-Barr virus-encoded RNAs (EBERs). May play important roles in granulocyte production and differentiation, bacterial phagocytosis and in the regulation of cell migration. {ECO:0000269|PubMed:15208624, ECO:0000269|PubMed:15708988, ECO:0000269|PubMed:16125763, ECO:0000269|PubMed:16127453, ECO:0000269|PubMed:16153868, ECO:0000269|PubMed:17190814, ECO:0000269|PubMed:18636086, ECO:0000269|PubMed:19122199, ECO:0000269|PubMed:19211564, ECO:0000269|PubMed:19576794, ECO:0000269|PubMed:19609254, ECO:0000269|PubMed:19631370, ECO:0000269|PubMed:21742966, ECO:0000269|PubMed:28469175, ECO:0000269|PubMed:29117565, ECO:0000269|PubMed:31006531, ECO:0000269|PubMed:34935440, ECO:0000269|PubMed:35263596, ECO:0000269|PubMed:36793726, ECO:0000269|Ref.69, ECO:0000303|PubMed:21616437, ECO:0000303|PubMed:21884169}.

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Molecular Weight: 106.6 kDa

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UniProt: [O95786](#)

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Pathways: [Activation of Innate immune Response, Hepatitis C](#)

## Application Details

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**Application Notes:** In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

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**Restrictions:** For Research Use only

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## Handling

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**Format:** Liquid

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**Buffer:** The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.

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**Handling Advice:** Avoid repeated freeze-thaw cycles.

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**Storage:** -80 °C

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**Storage Comment:** Store at -80°C.

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**Expiry Date:** Unlimited (if stored properly)

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