

## Product datasheet for TP315661L

### MDA5 (IFIH1) (NM\_022168) Human Recombinant Protein

#### Product data:

<b>Product Type:</b>	Recombinant Proteins
<b>Description:</b>	Recombinant protein of human interferon induced with helicase C domain 1 (IFIH1), 1 mg
<b>Species:</b>	Human
<b>Expression Host:</b>	HEK293
<b>Expression cDNA Clone or AA Sequence:</b>	>RC215661 representing NM_022168 Red=Cloning site Green=Tags(s)

MSGYSTDENFRYLISCFRARVKMYIQVEPVLDTLFLPAEVKEQIQRTVATSGNMQAVELLSTLEKGV  
 WHLGWTRFVEALRRTGSPLAARYMNPDLTLPSPFENAHDEYLQLLNLLQPTLVDKLLVRDVLDKCME  
 EELLTIEDRNRIAAAENNGNESGVRELLKRIVQKENWFSAFLNVLVRQTGNNELVQELTGSDCSESNAEIE  
 NLSQVDGPPQVEEQLLSTTVQPNLEKEVWGMENNSSESSFADSSVVSESDTSLAEGSVSCLDES LGHNSNM  
 GSDSGTIMGSDSDEENVAARASPEPELQLRPYQMEVAQPALEGKNIICLPTGSGKTRVAVYIAKDHLDDK  
 KKASEPGKVIVLVNKVLLVEQLFRKEFPFLKKWYRVIGLSGDTQLKISFPEVVKSCDIIISTAQILENS  
 LLNLENGEDAGVQLSDFSLIIIDECHHTNKEAVYNNIMRHYLMQKLKNNRLKKNKPVIPQLGLTAS  
 PGVGGATKQAKAEHILKLCANLDAFTIKTVKENLDQLKNQIQEPCKKFAIADATREDPFKEKLEIMTR  
 IQTYCQMSPMSDFGTQPYEQWAIQMEKKAKEG NRKERVCAEHLRKYNEALQINDTIRMIDAYTHLETFY  
 NEEKDKKFAVIEDDSDEGGDDEYCDGDEDEDDLKPLKLDLDRFLMTLFFENKMLKRLAENPEYENEK  
 LTKLRNTIMEQYTRTEESARGIIFTKRQSAYALSQWITENEKFAEVGVKAHHLIGAGHSSEFKPMTQNE  
 QKEVISKFRGKINLLIATTVAEEGLDIKECNIVIRYGLVTNEIAMVQARGRARADESTYVLVAHSGSGV  
 IERETVNDFREKMMYKAIHCVQNMKPEEYAHKILELQMQSIMEKKMKTKRNI AKHYKNNLSLITFLCKNC  
 SVLACSGEDIHVIEKMHHVNMTPEFKELYIVRENKTLQKKCADYQINGEIIICKCGQAWGTMMVHKGLDLP  
 CLKIRNFVVVFKNNSTKKQYKKWVELPITFPNLDYSECCLFSD

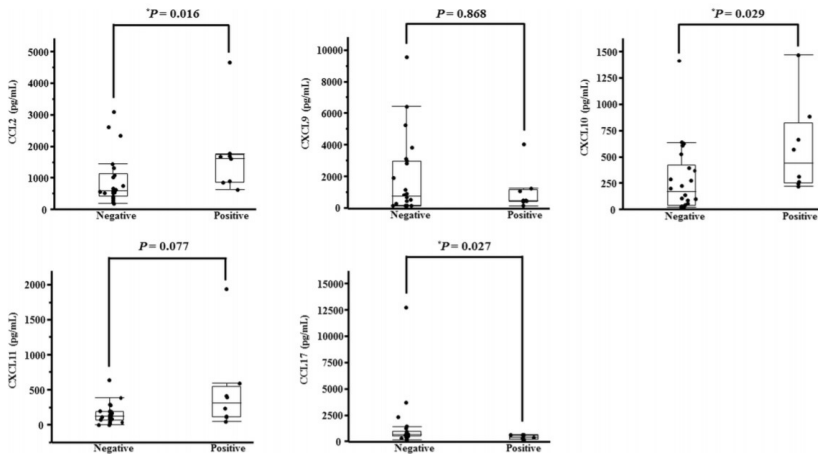
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

<b>Tag:</b>	C-Myc/DDK
<b>Predicted MW:</b>	116.5 kDa
<b>Concentration:</b>	>0.1 µg/µL as determined by microplate BCA method

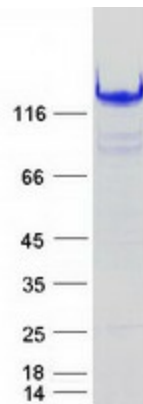


<b>Purity:</b>	> 80% as determined by SDS-PAGE and Coomassie blue staining
<b>Buffer:</b>	25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol
<b>Bioactivity:</b>	ELISA capture for autoantibodies (PMID: <a href="#">28487565</a> ) ELISA capture for autoantibodies (PMID: <a href="#">28842784</a> )
<b>Preparation:</b>	Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.
<b>Note:</b>	For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.
<b>Storage:</b>	Store at -80°C.
<b>Stability:</b>	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
<b>RefSeq:</b>	<a href="#">NP_071451</a>
<b>Locus ID:</b>	64135
<b>UniProt ID:</b>	<a href="#">Q9BYX4</a>
<b>RefSeq Size:</b>	3434
<b>Cytogenetics:</b>	2q24.2
<b>RefSeq ORF:</b>	3075
<b>Synonyms:</b>	AGS7; Hlcd; IDDM19; MDA-5; MDA5; RLR-2; SGMRT1
<b>Summary:</b>	IFIH1 encodes MDA5 which is an intracellular sensor of viral RNA that triggers the innate immune response. Sensing RNA length and secondary structure, MDA5 binds dsRNA oligonucleotides with a modified DExD/H-box helicase core and a C-terminal domain, thus leading to a proinflammatory response that includes interferons. It has been shown that Coronaviruses (CoVs) as well as various other virus families, are capable of evading the MDA5-dependent interferon response, thus impeding the activation of the innate immune response to infection. MDA5 has also been shown to play an important role in enhancing natural killer cell function in malaria infection. In addition to its protective role in antiviral responses, MDA5 has been implicated in autoimmune and autoinflammatory diseases such as type 1 diabetes, systemic lupus erythematosus, and Aicardi-Goutieres syndrome[provided by RefSeq, Jul 2020]
<b>Protein Pathways:</b>	RIG-I-like receptor signaling pathway

Product images:



Comparison of each of the chemokine levels (CCL2, CXCL11, CXCL9, CCL17, CXCL10) between anti-MDA5 antibody-positive and -negative patients. Anti-MDA5 antibody status was determined by ELISA using recombinant MDA5/IFIH1 antigen (OriGene [TP315661]). The Mann-Whitney U-test estimated the P value. \* P < 0.05. Figure cited from Sci Rep, PMID: 28487565



Coomassie blue staining of purified IFIH1 protein (Cat# [TP315661]). The protein was produced from HEK293T cells transfected with IFIH1 cDNA clone (Cat# [RC215661]) using MegaTran 2.0 (Cat# [TT210002]).