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Product datasheet for TP315661

MDA5 (IFIH1) (NM_022168) Human Recombinant Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Recombinant protein of human interferon induced with helicase C domain 1 (IFIH1), 20 µg
Species:	Human
Expression Host:	HEK293T
Expression cDNA Clone or AA Sequence:	>RC215661 representing NM_022168 Red=Cloning site Green=Tags(s) MSNGYSTDENFRYLISCFRARVKMYIQVEPVLDYLTFLPAEVKEQIQRTVATSGNMQAVELLLSTLEKGV WHLGWTREFVEALRRTGSPLAARYMNPELTDLPSPSFENAHDEYLQLLNLLQPTLVDKLLVRDVLDKCME EELLTIEDRNRIAAAENNGNESGVRELLKRIVQKENWFSAFLNVLRQTGNNELVQELTGSDCSESNAEIE NLSQVDGPQVEEQLLSTTVQPNLEKEVWGMENNSSESSFADSSVVSESDTSLAEGSVSCLDESLGHNSNM GSDSGTMGSDSDEENVAARASPEPELQLRPYQMEVAQPALEGKNIIICLPTGSGKTRVAVYIAKDHLDKK KKASEPGKVIVLVNKVLLVEQLFRKEFQPFLKKWYRVIGLSGDTQLKISFPEVVKSCDIIISTAQILENS LLNLENGEDAGVQLSDFSLIIIDECHHTNKEAVYNNIMRHYLMQKLKNNRLKKENKPVIPLPQILGLTAS PGVGGATKQAKAEEHILKLCANLDAFTIKTVKENLDQLKNQIQEPCKKFAIADATREDPFKEKLLEIMTR IQTYCQMSPMSDFGTQPYEQWAIQMEKKAAKEGNRKERVCAEHLRKYNEALQINDTIRMIDAYTHLETFY NEEKDKKFAVIEDDSDEGGDDEYCDGDEDEDDLKKPLKLDETDRFLMTLFFENNKMLKRLAENPEYENEK LTKLRNTIMEQYTRTEESARGIIFTKTRQSAYALSQWITENEKFAEVGVKAHHLIGAGHSSEFKPMTQNE QKEVISKFRTGKINLLIATTVAEEGLDIKECNIVIRYGLVTNEIAMVQARGRARADESTYVLVAHSGSGV IERETVNDFREKMMYKAIHCVQNMKPEEYAHKILELQMQSIMEKKMKTKRNIAKHYKNNLSLITFLCKNC SVLACSGEDIHVIEKMHHVNMTPEFKELYIVRENKTLQKKCADYQINGEIICKCGQAWGTMMVHKGLDLP CLKIRNFVVVFKNNSTKKQYKKWVELPITFPNLDYSECCLFSDED TRTRPLEQKLISEEDLAANDILDYKDDDDKV
Tag:	C-Myc/DDK
Predicted MW:	116.5 kDa
Concentration:	>0.1 µg/µL as determined by microplate BCA method
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol

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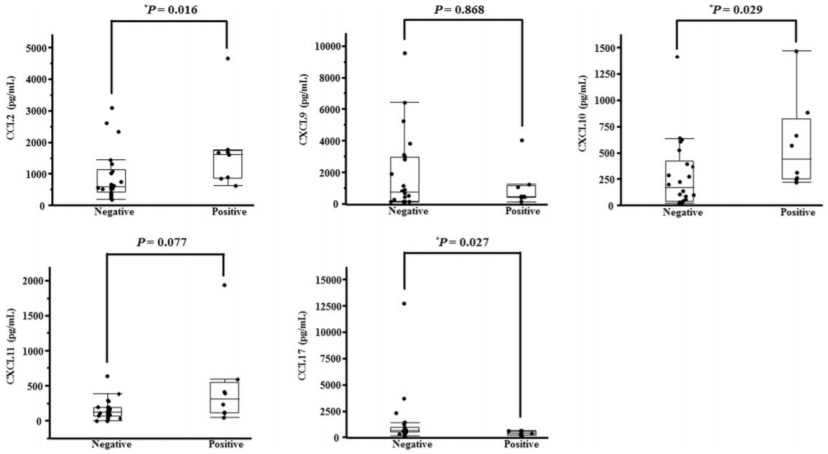
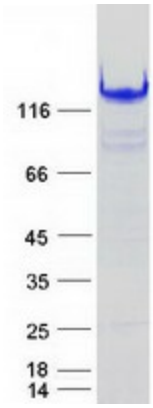
Bioactivity:	ELISA capture for autoantibodies (PMID: 28487565) ELISA capture for autoantibodies (PMID: 28842784)
Preparation:	Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.
Note:	For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.
Storage:	Store at -80°C.
Stability:	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
RefSeq:	NP_071451
Locus ID:	64135
UniProt ID:	Q9BYX4
RefSeq Size:	3434
Cytogenetics:	2q24.2
RefSeq ORF:	3075
Synonyms:	AGS7; Hlcd; IDDM19; MDA-5; MDA5; RLR-2; SGMRT1
Summary:	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]
Protein Pathways:	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]).