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Product datasheet for RC215661

MDA5 (IFIH1) (NM_022168) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MDA5 (IFIH1) (NM_022168) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MDA5
Synonyms:	AGS7; Hlcd; IDDM19; MDA-5; MDA5; RLR-2; SGMRT1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC215661 representing NM_022168
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
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Protein Sequence:

>RC215661 representing NM_022168
Red=Cloning site Green=Tags(s)

MSNGYSTDENFRYLISCFRARVKMYIQVEPVLDYLTFLPAEVKEQIQRTVATSGNMQAVELLLSTLEKGV
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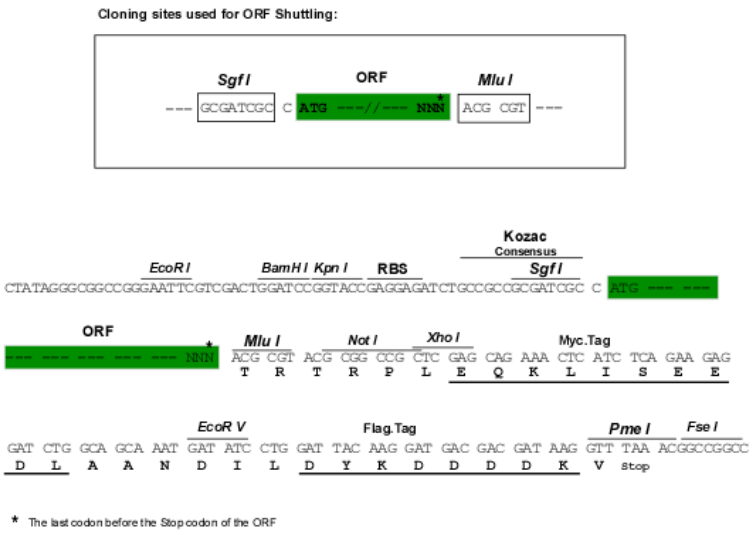
Chromatograms: https://cdn.origene.com/chromatograms/mg2686_d10.zip

Restriction Sites: SgfI-MluI

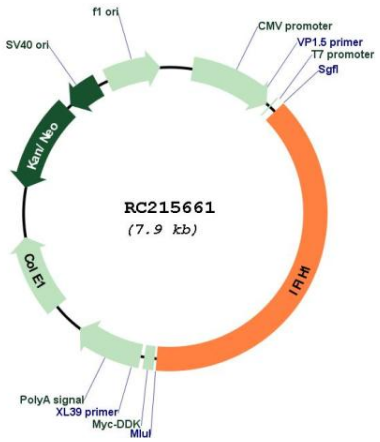
Cloning Scheme:



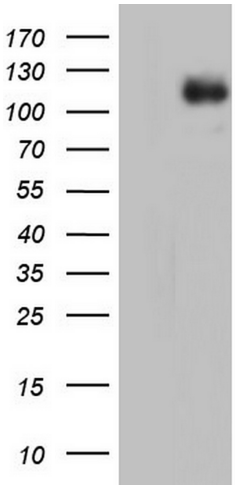
ACCN:	NM_022168
ORF Size:	3075 bp
OTI Disclaimer:	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. More info
OTI Annotation:	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_022168.4
RefSeq Size:	3434 bp

RefSeq ORF:	3078 bp
Locus ID:	64135
UniProt ID:	Q9BYX4
Cytogenetics:	2q24.2
Domains:	DEAD, helicase_C
Protein Pathways:	RIG-I-like receptor signaling pathway
MW:	116.5 kDa
Gene 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]

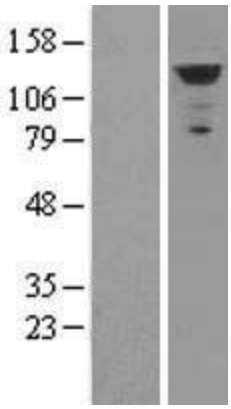
Product images:



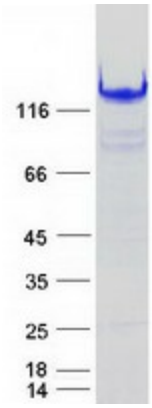
Circular map for RC215661



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY IFIH1 (Cat# RC215661, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-IFIH1(Cat# [TA803667]). Positive lysates [LY411723] (100ug) and [LC411723] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY411723]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC215661 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



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]).