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Product datasheet for RC221091

Interferon alpha 2 (IFNA2) (NM_000605) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Interferon alpha 2 (IFNA2) (NM_000605) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Interferon alpha 2
Synonyms:	IFN-alpha-2; IFN-alphaA; IFNA; IFNA2B; leIF A
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC221091 representing NM_000605
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCCTTGACCTTTGCTTTACTGGTGGCCCTCCTGGTGCTCAGCTGCAAGTCAAGCTGCTCTGTGGGCT
GTGATCTGCCTCAAACCCACAGCCTGGGTAGCAGGAGGACCTTGATGCTCCTGGCACAGATGAGGAGAAT
CTCTCTTTTCTCCTGCTTGAAGGACAGACATGACTTTGGATTTCCCCAGGAGGAGTTTGGCAACCAGTTC
CAAAAGGCTGAAACCATCCCTGTCCTCCATGAGATGATCCAGCAGATCTTCAATCTCTTCAGCACAAAGG
ACTCATCTGCTGCTTGGGATGAGACCCTCCTAGACAAATTCTACACTGAACTCTACCAGCAGCTGAATGA
CCTGGAAGCCTGTGTGATACAGGGGGTGGGGGTGACAGAGACTCCCCTGATGAAGGAGGACTCCATTCTG
GCTGTGAGGAAATACTTCCAAAGAATCACTCTCTATCTGAAAGAGAAGAAATACAGCCCTTGTGCCTGGG
AGGTTGTCAGAGCAGAAATCATGAGATCTTTTTCTTTGTCAACAAACTTGCAAGAAAGTTTAAGAAGTAA
GGAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC221091 representing NM_000605
Red=Cloning site Green=Tags(s)

MALTFALLVALLVLSCKSSCSVGCDLPQTHSLGSRRTLMLLAQMRRISLFSCLKDRHDFGFPQEEFGNQF
QKAETIPVLHEMIQQIFNLFSTKDSSAAWDETLLDKFYTELYQQLNDLEACVIQGVGVTETPLMKEDSIL
AVRKYFQRITLYLKEKKYSPCAWEVVRAEIMRSFSLSTNLQESLRSKE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

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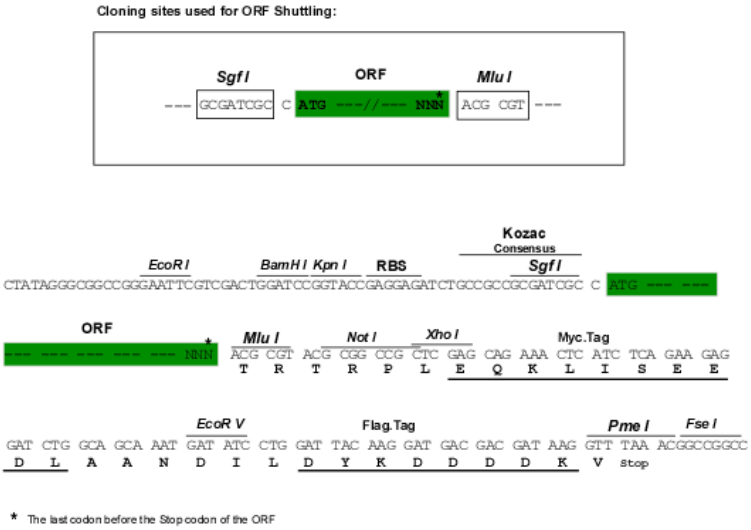
Chromatograms: https://cdn.origene.com/chromatograms/mk6111_h12.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_000605

ORF Size: 564 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.

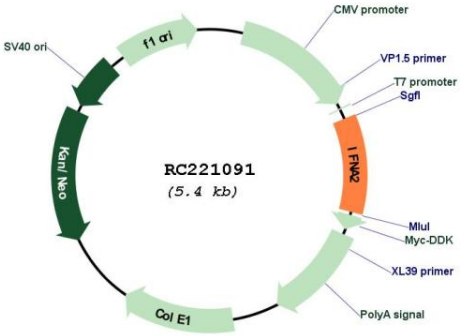
Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: NM_000605.4

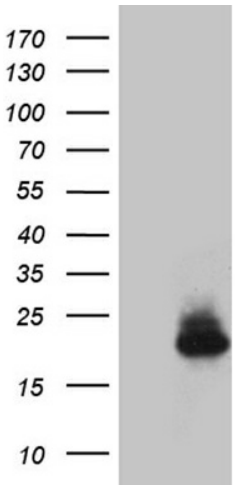
RefSeq Size: 1142 bp

RefSeq ORF:	567 bp
Locus ID:	3440
UniProt ID:	P01563
Cytogenetics:	9p21.3
Protein Families:	Druggable Genome, Secreted Protein
Protein Pathways:	Antigen processing and presentation, Autoimmune thyroid disease, Cytokine-cytokine receptor interaction, Cytosolic DNA-sensing pathway, Jak-STAT signaling pathway, Natural killer cell mediated cytotoxicity, Regulation of autophagy, RIG-I-like receptor signaling pathway, Toll-like receptor signaling pathway
MW:	21.4 kDa
Gene Summary:	This gene is a member of the alpha interferon gene cluster on chromosome 9. The encoded cytokine is a member of the type I interferon family that is produced in response to viral infection as a key part of the innate immune response with potent antiviral, antiproliferative and immunomodulatory properties. This cytokine, like other type I interferons, binds a plasma membrane receptor made of IFNAR1 and IFNAR2 that is ubiquitously expressed, and thus is able to act on virtually all body cells. The encoded protein is effective in reducing the symptoms and duration of the common cold and in treating many types of cancer, including some hematological malignancies and solid tumors. A deficiency of type I interferon in the blood is thought to be a hallmark of severe COVID-19 and may provide a rationale for a combined therapeutic approach. [provided by RefSeq, Aug 2020]

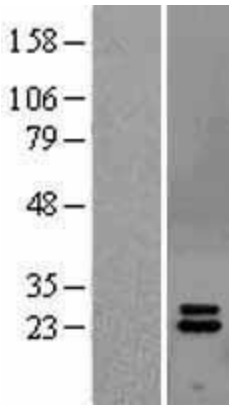
Product images:



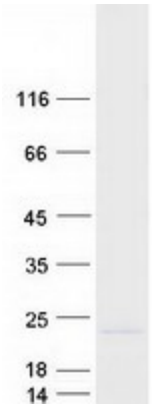
Circular map for RC221091



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY IFNA2 (Cat# RC221091, 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-IFNA2(Cat# [TA811910]). Positive lysates [LY400201] (100ug) and [LC400201] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400201]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC221091 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified IFNA2 protein (Cat# [TP321091]). The protein was produced from HEK293T cells transfected with IFNA2 cDNA clone (Cat# RC221091) using MegaTran 2.0 (Cat# [TT210002]).