# Interferon Regulatory Factor 3 (IRF3) Human Recombinant Protein

## PRODUCT OVERVIEW

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| **Product Name** | Interferon regulatory factor 3 (IRF3), Recombinant Protein |
| **Full Product Name** | Recombinant Human Interferon regulatory factor 3 (IRF3) |
| **Product Gene Name** | IRF3 recombinant protein |
| **Product Synonym Gene Name** | IRF3 |
| **Sequence** | MGTPKPRILP WLVSQLDLGQ LEGVAWVNKS RTRFRIPWKH GLRQDAQQED FGIFQAWAEA TGAYVPGRDK PDLPTWKRNF RSALNRKEGL RLAEDRSKDP HDPHKIYEFV NSGVGDFSQP DTSPDTNGGG STSDTQEDIL DELLGNMVLA PLPDPGPPSL AVAPEPCPQP LRSPSLDNPT PFPNLGPSEN PLKRLLVPGE EWEFEVTAFY RGRQVFQQTI SCPEGLRLVG SEVGDRTLPG WPVTLPDPGM SLTDRGVMSY VRHVLSCLGG GLALWRAGQW LWAQRLGHCH TYWAVSEELL PNSGHGPDGE VPKDKEGGVF DLGPFIVDLI TFTEGSGRSP RYALWFCVGE SWPQDQPWTK RLVMVKVVPT CLRALVEMAR VGGASSLENT VDLHISNSHP LSLTSDQYKA YLQDLVEGMD FQGPGES |
| **Host** | E Coli or Yeast or Baculovirus or Mammalian Cell |
| **Form/Format** | Lyophilized or liquid (Format to be determined during the manufacturing process) |
| **Purity/Purification** | Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific) |
| **Preparation and Storage** | Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended. |
| **Molecular Weight** | 12,330 Da |
| **Sequence Positions** | 1-452, Full length protein |
| **Tag Information** | This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information. |
| **Sterility** | Sterile filter available upon request. |
| **Endotoxin** | Low endotoxin available upon request. |
| **OMIM** | 603734 |
| **3D Structure** | ModBase 3D Structure for Q14653 |
| **Species** | Human |
| **ISO Certification** | Manufactured in an ISO 9001:2015 Certified Laboratory. |
| **Related Product Information for IRF3 recombinant protein** | IRF3 encodes interferon regulatory factor 3, a member of the interferon regulatory transcription factor (IRF) family. IRF3 is found in an inactive cytoplasmic form that upon serine<br>threonine phosphorylation forms a complex with CREBBP. This complex translocates to the nucleus and activates the transcription of interferons alpha and beta, as well as other interferon-induced genes. |
| **Other Notes** | Small volumes of IRF3 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |
| **Searchable Terms for IRF3 purchase** | MBS1405425 is a recombinant protein targeting IRF3. Also known as Recombinant Human Interferon regulatory factor 3 (IRF3). Host: E Coli or Yeast or Baculovirus or Mammalian Cell. |

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for IRF3. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 308199446 |
| **NCBI GeneID** | 3661 |
| **NCBI Accession #** | NP_001184051.1 |
| **UniProt Primary Accession #** | Q14653 |
| **UniProt Secondary Accession #** | Q5FBY1; Q5FBY2; Q5FBY4; Q7Z5G6; A8K7L2; B2RAZ3 |
| **UniProt Related Accession #** | Q14653 |
| **GenBank Nucleotide #** | NM_001197122.1 |
| **NCBI Official Full Name** | interferon regulatory factor 3 isoform 2 |
| **NCBI Official Synonym Full Names** | interferon regulatory factor 3 |
| **NCBI Official Symbol** | IRF3 |
| **NCBI Official Synonym Symbols** | IIAE7 |
| **UniProt Protein Name** | Interferon regulatory factor 3 |
| **Protein Family** | Interferon regulatory factor |
| **UniProt Gene Name** | IRF3 |
| **UniProt Synonym Gene Names** | IRF-3 |
| **NCBI Protein Information** | interferon regulatory factor 3 |
| **NCBI Summary for IRF3** | This gene encodes a member of the interferon regulatory transcription factor (IRF) family. The encoded protein is found in an inactive cytoplasmic form that upon serine/threonine phosphorylation forms a complex with CREBBP. This complex translocates to the nucleus and activates the transcription of interferons alpha and beta, as well as other interferon-induced genes. Alternatively spliced transcript variants encoding multiple isoforms have been observed for this gene. [provided by RefSeq, Nov 2011] |
| **UniProt Comments for IRF3** | Key transcriptional regulator of type I interferon (IFN)-dependent immune responses which plays a critical role in the innate immune response against DNA and RNA viruses. Regulates the transcription of type I IFN genes (IFN-alpha and IFN-beta) and IFN-stimulated genes (ISG) by binding to an interferon-stimulated response element (ISRE) in their promoters. Acts as a more potent activator of the IFN-beta (IFNB) gene than the IFN-alpha (IFNA) gene and plays a critical role in both the early and late phases of the IFNA/B gene induction. Found in an inactive form in the cytoplasm of uninfected cells and following viral infection, double-stranded RNA (dsRNA), or toll-like receptor (TLR) signaling, is phosphorylated by IKBKE and TBK1 kinases. This induces a conformational change, leading to its dimerization and nuclear localization and association with CREB binding protein (CREBBP) to form dsRNA-activated factor 1 (DRAF1), a complex which activates the transcription of the type I IFN and ISG genes. Can activate distinct gene expression programs in macrophages and can induce significant apoptosis in primary macrophages. |
| **Research Articles on IRF3** | **1.** In the current study, we studied the role of MITA (Mediator of IRF3 Activation), a regulator of innate immunity, in the regulation of autophagy and its implication in cell death of breast cancer cells. Here, we report that MITA inhibits the fusion of autophagosome with lysosome as evident from different autophagy flux assays |
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