

Recombinant Mouse IRF7 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51501

Size: 10ug, 100ug

Protein Name: Interferon regulatory factor 7 (IRF-7)

Synonym: Irf7

UniProt ID: P70434

UniProt Link: www.uniprot.org/uniprotkb/P70434/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 457 AA

Molecular Weight: 51 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAEVRGVQRVLFGDWLLGEVSSGQYEGWLNEARTVFRVPWKHFGRRDLEEDAQIFKAWAVA
RGRWPPSGVNLPPPEAEAAERRERRGWKTNFRCALHSTGRFILRQDNSGDPVDPHKVYELSRELG
STVGPATENREEVSLSNALPTQGVSPGSFLARENAGLQTPSPLLSSDAGDLLLQVLQYSHILESESG
ADPVPQAPGQEQDRVYEEPYAAWQVEAVPSRPQQPALTERSLGFLDVTIMYKGRTVLQAVVGH
PRCVFLYSPMAPAVRTSEPQPVIFPSPAELPDQKQLHYTETLLQHVSPGLQLELRGPSLWALRMGK
CKVYWEVGSPMGTTGPSTPPQLLERNRHTPIFDSTFFRELEEFRRRRRQGS PHYTIYLGFGQDLSA
GRPKEKTLILVKLEPWVCKAYLEGVQREGVSSLDSSSLGLCLSSTNSLYEDIEHFLMDLGQWP

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Interferon regulatory factor 7 (IRF-7) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Key transcriptional regulator of type I interferon (IFN)-dependent immune responses and plays a critical role in the innate immune response against DNA and RNA viruses (PubMed:22095711, PubMed:27129230). 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. Can efficiently activate both the IFN-beta (IFNB) and the IFN-alpha (IFNA) genes and mediate their induction via both the virus-activated, MyD88-independent pathway and the TLR-activated, MyD88-dependent pathway. Induces transcription of ubiquitin hydrolase USP25 mRNA in response to lipopolysaccharide (LPS) or viral infection in a type I IFN-dependent manner (PubMed:27129230). Required during both the early and late phases of the IFN gene induction but is more critical for the late than for the early phase. Exists in an inactive form in the cytoplasm of uninfected cells and following viral infection, double-stranded RNA (dsRNA), or toll-like receptor (TLR) signaling, becomes phosphorylated by IKKε and TBK1 kinases. This induces a conformational change, leading to its dimerization and nuclear localization where along with other coactivators it can activate transcription of the type I IFN and ISG genes. Can also play a role in regulating adaptive immune responses by inducing PSMB9/LMP2 expression, either directly or through induction of IRF1. Binds to the Q promoter (Qp) of EBV nuclear antigen 1 a (EBNA1) and may play a role in the regulation of EBV latency. Can activate distinct gene expression programs in macrophages and regulate the anti-tumor properties of primary macrophages.

Subcellular Localization: Nucleus . Cytoplasm . Note=The phosphorylated and active form accumulates selectively in the nucleus.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.