

Datasheet for ABIN7548647  
**IRGM Protein (AA 1-181) (His tag)**



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## Overview

Quantity:	1 mg
Target:	IRGM
Protein Characteristics:	AA 1-181
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This IRGM protein is labelled with His tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB)

## Product Details

Purpose:	Custom-made recombinat IRGM Protein expressed in mammalian cells.
Sequence:	<p>MEAMNVEKAS ADGNLPEVIS NIKETLKIVS RTPVNITMAG DSGNGMSTFI SALRNTGHEG  KASPTELVK ATQRCASYFS SHFSNVVLWD LPGTGSATTT LENYLMEMQF NRYDFIMVAS  AQFSMNHVML AKTAEDMGKK FYIVWTKLDM DLSTGALPEV QLLQIRENVL ENLQKERVCE Y</p> <p><b>Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.</b></p>
Characteristics:	<p>Key Benefits:</p> <ul style="list-style-type: none"> <li>• Made to order protein - from design to production - by highly experienced protein experts.</li> <li>• Protein expressed in mammalian cells and purified in one-step affinity chromatography</li> <li>• The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.</li> </ul>

## Product Details

- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.

If you are not interested in a full length protein, please contact us for individual protein fragments.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Purity:	> 90 % as determined by Bis-Tris Page, Western Blot
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Grade:	custom-made
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## Target Details

Target:	IRGM
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Alternative Name:	IRGM ( <a href="#">IRGM Products</a> )
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Background:	Immunity-related GTPase family M protein (EC 3.6.5.-) (Immunity-related GTPase family M protein 1) (Interferon-inducible protein 1) (LPS-stimulated RAW 264.7 macrophage protein 47 homolog) (LRG-47),FUNCTION: Immunity-related GTPase that plays important roles in innate immunity and inflammatory response (PubMed:16888103, PubMed:19165925, PubMed:25891078). Acts as a dynamin-like protein that binds to intracellular membranes and promotes remodeling and trafficking of those membranes (By similarity). Required for clearance of acute protozoan and bacterial infections by interacting with autophagy and lysosome regulatory proteins, thereby promoting the fusion of phagosomes with lysosomes for efficient degradation of cargo including microbes (PubMed:16888103, PubMed:25891078, PubMed:29420192, PubMed:32939830). Regulates selective autophagy, including xenophagy and mitophagy, both directly and indirectly (PubMed:16888103, PubMed:25891078, PubMed:29420192, PubMed:32939830). Directly regulates autophagy by acting as a molecular adapter that promotes the coassembly of the core autophagy machinery to mediate antimicrobial defense: IRGM (1) activates AMPK, which in turn phosphorylates ULK1 and BECN1 to induce autophagy, (2) promotes the coassembly of ULK1 and BECN1, enhancing BECN1-interacting partners and (3) influences the composition of the BECN1 complex, by competing with the negative regulators BCL2 and RUBCN, to trigger autophagy
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Target Details

(PubMed:25891078). Also activates autophagy by promoting recruitment of STX17 to autophagosomes (PubMed:29420192). In collaboration with ATG8 proteins, regulate lysosomal biogenesis, a fundamental process for any autophagic pathway, by promoting TFEB dephosphorylation (PubMed:32753672). Also modulates autophagy by assisting with autophagosome formation and preventing lysosomal deacidification (By similarity). While activating autophagy, acts as a key negative regulator of the inflammatory and interferon responses both by (1) promoting mitophagy and (2) mediating autophagy-dependent degradation of effectors of the inflammatory response (PubMed:30612879, PubMed:32715615, PubMed:36221902). Promotes degradation of damaged and IFNG/IFN-gamma-stressed mitochondria via mitophagy, preventing cytosolic release of ligands that activate inflammation (PubMed:32715615). Acts as a suppressor of inflammation by promoting recruitment of inflammation effectors, such as CGAS, RIGI/RIG-I and NLRP3, to autophagosome membranes, leading to their SQSTM1/p62-dependent autophagic degradation (PubMed:30612879, PubMed:32715615). Also directly inhibits assembly of the NLRP3 inflammasome by preventing the association between NLRP3 and PYCARD (PubMed:30612879). Acts as a negative regulator of antiviral innate immune response by suppressing the RIPK2-dependent pro-inflammatory response: mediates recruitment of RIPosomes, composed of RIPK2 and NOD1 or NOD2, to autophagosome membranes, promoting their SQSTM1/p62-dependent autophagic degradation (PubMed:34467632, PubMed:36221902). {ECO:0000250|UniProtKB:Q60766, ECO:0000269|PubMed:16888103, ECO:0000269|PubMed:19165925, ECO:0000269|PubMed:25891078, ECO:0000269|PubMed:29420192, ECO:0000269|PubMed:30612879, ECO:0000269|PubMed:32715615, ECO:0000269|PubMed:32753672, ECO:0000269|PubMed:32939830, ECO:0000269|PubMed:34467632, ECO:0000269|PubMed:36221902}., FUNCTION: [Isoform IRGMd]: Acts as a positive regulator of mitophagy in response to intracellular mycobacteria infection: specifically binds cardiolipin, leading to its translocation to mitochondria, where it promotes affected mitochondrial fission and mitophagy. {ECO:0000269|PubMed:21102437}., FUNCTION: (Microbial infection) Following infection by hepatitis C virus (HCV), promotes HCV-triggered membrane remodeling, leading to autophagy and Golgi fragmentation, a step required for HCV replication. {ECO:0000269|PubMed:28389568}.

Molecular Weight:	20.1 kDa
UniProt:	<a href="#">A1A4Y4</a>

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies
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Application Details

as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: The buffer composition is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: 12 months