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IRGM Antibody (C-term) Blocking peptide
Synthetic peptide
Catalog # BP11128b

Specification

IRGM Antibody (C-term) Blocking peptide - Product Information

Primary Accession A1A4Y4

IRGM Antibody (C-term) Blocking peptide - Additional Information

Gene ID 345611

Other Names
Immunity-related GTPase family M protein, 365-, Immunity-related GTPase family M protein 1, Interferon-inducible protein 1, LPS-stimulated RAW 2647 macrophage protein 47 homolog, LRG-47, IRGM, IFI1, IRGM1, LRG47

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

IRGM Antibody (C-term) Blocking peptide - Protein Information

Name IRGM {ECO:0000303|PubMed:19266026, ECO:0000312|HGNC:HGNC:29597}

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:<a

href="http://www.uniprot.org/citations/29420192" target="_blank">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 (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).

Cellular Location
Golgi apparatus membrane. Cell membrane {ECO:0000250|UniProtKB:Q60766}. Cytoplasmic vesicle, phagosome membrane {ECO:0000250|UniProtKB:Q60766}. Cytoplasmic vesicle, autophagosome membrane. Lysosome membrane {ECO:0000250|UniProtKB:Q60766}. Late endosome membrane {ECO:0000250|UniProtKB:Q60766}. Mitochondrion membrane {ECO:0000250|UniProtKB:Q60766}. Cell projection, phagocytic cup {ECO:0000250|UniProtKB:Q60766}. Note=Behaves like an integral membrane protein. Recruited to the plasma membrane around forming phagocytic cups, it remains associated with maturing phagosomes. Association with phagosomes is dependent on nucleotide-binding but is IFNG-independent Also detected in late endosomes and lysosomes {ECO:0000250|UniProtKB:Q60766}

Tissue Location
Widely expressed (at protein level) (PubMed:16888103). Expressed in several tissues including colon, small bowel and peripheral blood leukocytes (PubMed:17554261)

IRGM Antibody (C-term) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

IRGM Antibody (C-term) Blocking peptide - Images

IRGM Antibody (C-term) Blocking peptide - Background

This gene encodes a member of the p47 immunity-relatedGTPase family. The encoded protein may play a role in the innateimmune response by regulating autophagy formation in response tointracellular pathogens. Polymorphisms that affect the normalexpression of this gene are associated with a susceptibility toCrohn's disease and tuberculosis.

IRGM Antibody (C-term) Blocking peptide - References

Che, N., et al. Clin. Chim. Acta 411 (21-22), 1645-1649 (2010) :Wolfkamp, S.C., et al. Eur J Gastroenterol Hepatol 22(8):933-937(2010)Latiano, A., et al. Inflamm. Bowel Dis. 16(7):1108-1117(2010)Prescott, N.J., et al. Hum. Mol. Genet. 19(9):1828-1839(2010)Bekpen, C., et al. PLoS Genet. 5 (3), E1000403 (2009) :