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-20°C

IRGM (E6P7W) Rabbit mAb



#71950

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New 08/19

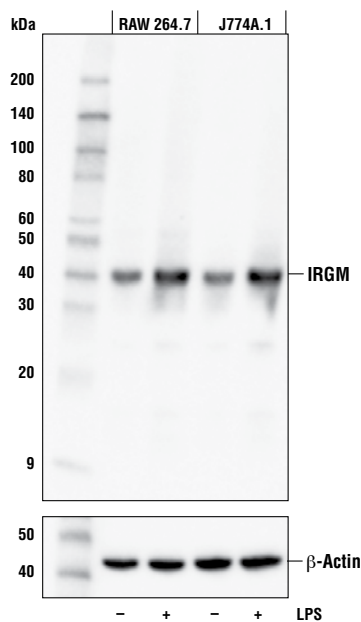
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| Applications W, IP Endogenous | Species Cross-Reactivity* M | Molecular Wt. 40 kDa | Isotype Rabbit IgG** |
|-------------------------------------|--------------------------------|-------------------------|-------------------------|
|-------------------------------------|--------------------------------|-------------------------|-------------------------|

Background: Immunity-related GTPase family M protein 1 (IRGM, LRG-47) belongs to the p47 family of immunity related guanosine triphosphatases (IRGs) that regulate innate immune responses to intracellular pathogens (1-3). Research studies indicate that IRGM plays a role in autophagy during clearance of intracellular bacteria (4). Expression of IRGM in mice, but not in humans, is induced by inflammatory signals that include interferon and LPS (2,3). Polymorphisms in the corresponding *IRGM* gene are associated with some cases of tuberculosis (5-7), Crohn's disease (8,9), and severe sepsis (10). Additional studies indicate that IRGM functions through regulation of autophagy (4). Mitochondrial IRGM plays a role in mitochondrial fission, membrane polarization, and mitophagy (11). Knockout mice for IRGM show increased susceptibility to infection as well as intestinal inflammation and Paneth cell abnormalities (12,13). Knockout mice against IRGM are also resistant to neuronal autophagy following stroke (14). RNA viruses commonly target IRGM in order to suppress autophagy and enhance infection (15).

Specificity/Sensitivity: IRGM (E6P7W) Rabbit mAb recognizes endogenous levels of total IRGM protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala105 of mouse IRGM protein.



Western blot analysis of extracts from RAW 264.7 and J774A.1 cells, untreated (-) or treated with Lipopolysaccharides (LPS) #14011 (5 µg/ml, 7 hr; +), using IRGM (E6P7W) Rabbit mAb (upper) or β -Actin (D6A8) Rabbit mAb #8457 (lower).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

| | |
|---------------------|--------|
| Western blotting | 1:1000 |
| Immunoprecipitation | 1:100 |

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

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- (5) Che, N. et al. (2010) *Clin Chim Acta* 411, 1645-9.
- (6) Intemann, C.D. et al. (2009) *PLoS Pathog* 5, e1000577.
- (7) King, K.Y. et al. (2011) *PLoS One* 6, e16317.
- (8) Parkes, M. et al. (2007) *Nat Genet* 39, 830-2.
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- (10) Kimura, T. et al. (2014) *PLoS One* 9, e91522.
- (11) Singh, S.B. et al. (2010) *Nat Cell Biol* 12, 1154-65.
- (12) Feng, C.G. et al. (2004) *J Immunol* 172, 1163-8.
- (13) Liu, B. et al. (2013) *Am J Physiol Gastrointest Liver Physiol* 305, G573-84.
- (14) He, S. et al. (2012) *Autophagy* 8, 1621-7.
- (15) Grégoire, I.P. et al. (2011) *PLoS Pathog* 7, e1002422.

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IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

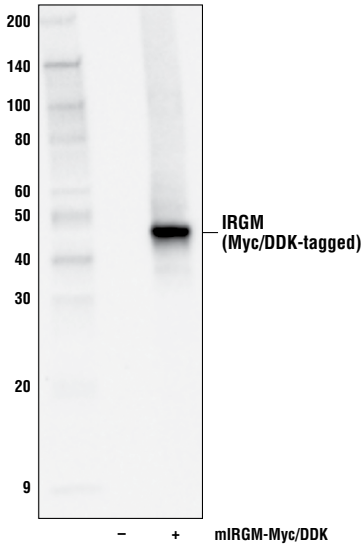
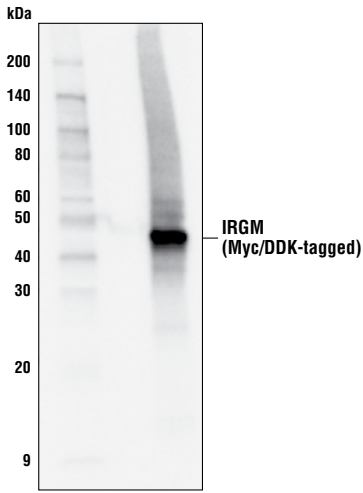
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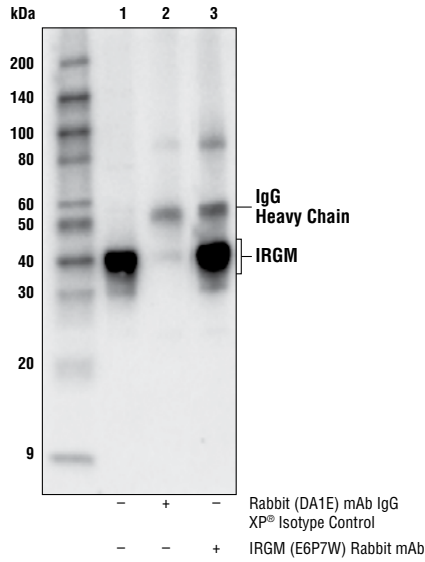
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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Western blot analysis of extracts from 293T cells, mock transfected (-) or transfected with a construct expressing Myc/DDK-tagged full-length mouse IRGM protein (mIRGM-Myc/DDK; +), using IRGM (E6P7W) Rabbit mAb (upper) or Myc-Tag (71D10) Rabbit mAb #2278 (lower).



Immunoprecipitation of IRGM protein from J774A.1 cells treated with Lipopolysaccharides (LPS) #14011 (5 µg/ml, 7 hr). Lane 1 is 10% input, lane 2 is Rabbit (DA1E) mAb IgG XP® Isotype Control #3900, and lane 3 is IRGM (E6P7W) Rabbit mAb. Western blot analysis was performed using IRGM (E6P7W) Rabbit mAb. Anti-rabbit IgG, HRP-linked Antibody #7074 was used as a secondary antibody.

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