

#14979 Store at -20°C

IRGM Antibody



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	M R	Endogenous	40	Rabbit	#Q60766	15944

Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	IRGM Antibody recognizes endogenous levels of total IRGM protein in mouse and rat.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg215 of mouse IRGM protein. Antibodies are purified by protein A and peptide affinity chromatography.	
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 <i>IRGM</i> 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).	
Background References	<ol style="list-style-type: none"> Kim, B.H. et al. (2012) <i>Cell Host Microbe</i> 12, 432-44. Gilly, M. and Wall, R. (1992) <i>J Immunol</i> 148, 3275-81. Sorace, J.M. et al. (1995) <i>J Leukoc Biol</i> 58, 477-84. Singh, S.B. et al. (2006) <i>Science</i> 313, 1438-41. Che, N. et al. (2010) <i>Clin Chim Acta</i> 411, 1645-9. Intemann, C.D. et al. (2009) <i>PLoS Pathog</i> 5, e1000577. King, K.Y. et al. (2011) <i>PLoS One</i> 6, e16317. Parkes, M. et al. (2007) <i>Nat Genet</i> 39, 830-2. McCarroll, S.A. et al. (2008) <i>Nat Genet</i> 40, 1107-12. Kimura, T. et al. (2014) <i>PLoS One</i> 9, e91522. Singh, S.B. et al. (2010) <i>Nat Cell Biol</i> 12, 1154-65. Feng, C.G. et al. (2004) <i>J Immunol</i> 172, 1163-8. Liu, B. et al. (2013) <i>Am J Physiol Gastrointest Liver Physiol</i> 305, G573-84. He, S. et al. (2012) <i>Autophagy</i> 8, 1621-7. Grégoire, I.P. et al. (2011) <i>PLoS Pathog</i> 7, e1002422. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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