

## IRGM Antibody

*IRGM (IN): Immunity related GTPase family, IFL1, IRGM1, LRG47, LRG-47*

**CATALOG No.: 4545**

### BACKGROUND:

Autophagy, the process of bulk degradation of cellular proteins through an autophagosomic-lysosomal pathway is important for normal growth control and may be defective in tumor cells. It is involved in the preservation of cellular nutrients under starvation conditions as well as the normal turnover of cytosolic components (1). Two of the strongest hits implicate genes IRGM and ATG16L1, which encode proteins thought to be critical to the autophagy pathway and being significantly associated with Crohn's disease (2,3). In mouse, IRGM belongs to a family of gamma-interferon-induced GTP-binding proteins of approximately 48 kDa. Murine IRGM induces autophagy and generates large autolysosomal organelles as a mechanism for the elimination of intracellular Mycobacterium tuberculosis. Human IRGM is also involved in autophagy and plays a role in the control of intracellular pathogens and in the reduction of intracellular bacillary load (4).

### SOURCE:

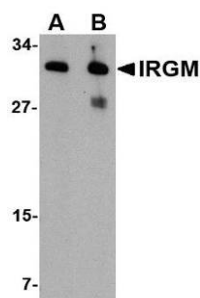
Rabbit polyclonal IRGM antibody was raised against a 14 amino acid peptide near the center of the human IRGM (GenBank accession no. AAI28169).

### APPLICATION:

IRGM antibody can be used for detection of IRGM by Western blot at 1 – 2 µg/ml. (Optimal dilution should be determined by user.) Human brain lysate can be used as positive control. IRGM antibody is human, mouse and rat reactive. **For research use only.**

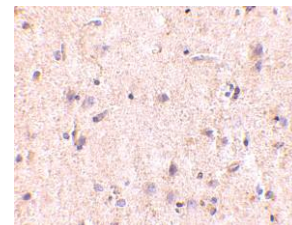
### STORAGE:

IRGM antibody is supplied as immunoaffinity purified IgG in PBS containing 0.02% sodium azide. Store at 4°C, stable for one year.



Western blot analysis of IRGM in human brain lysate with IRGM antibody at (A) 1 and (B) 2 µg/ml.

Immunohistochemistry of IRGM in human brain with IRGM antibody at 5 µg/ml.



### RELATED PRODUCTS:

Blocking peptide, Catalog No. **4543P**.  
Human Brain Tissue Lysate, Catalog No. **1303**.  
IRGM Antibody (NT), Catalog No. **4543**.  
ATG16 Antibody (NT), Catalog No. **4425**.  
Nod2 Antibody (CT), Catalog No. **2513**.

### REFERENCES:

1. Gozuacik D and Kimchi A. Autophagy as a cell death and tumor suppressor mechanism. *Oncogene* 2004; 23:2891-906.
2. Massey DC and Parkes M. Genome-wide association scanning highlights two autophagy genes, ATG16L1 and IRGM, as being significantly associated with Crohn's disease. *Autophagy* 2007; 3:649-51.
3. Fisher SA, Tremelling M, Anderson CA, et al. Genetic determinants of ulcerative colitis include the ECM1 locus and five loci implicated in Crohn's disease. *Nat. Genet.* 2008; 40:710-2.
4. Singh SB, Davis AS, Taylor GA, et al. Human IRGM induces autophagy to eliminate intracellular mycobacteria. *Science* 2006; 313:1438-41. (08-01D)