

# Irgm2 (M-14): sc-11088

## BACKGROUND

A distinct family of interferon- $\gamma$  (IFN- $\gamma$ ) inducible GTPases, belonging to the GTPase superfamily, are selectively induced by IFN- $\gamma$  or bacterial lipopolysaccharide (LPS) stimulation. These putative GTPases include TGTP, IRG-47, LRG-47, and IGTP, and they are involved in mediating the cellular innate immune responses. Similar to other GTPases, they contain a characteristic nucleotide-binding domain for GTP and are functionally regulated by the binding and hydrolysis of GTP. In addition, these related proteins also contain significant sequence similarity among themselves, are largely similar in size, and yet they are differentially expressed. TGTP, or T cell specific GTPase, is preferentially expressed in T cells and is up-regulated in response to TCR cross-linking. IGTP (inducibly expressed GTPase) is expressed predominantly in macrophages, whereas IRG-47 is primarily expressed in all cells derived from B cell lineages, and LRG-47 is highly expressed in macrophages following IFN- $\gamma$  stimulation. Two additional proteins, ILGP and GTP1, are expressed in mouse embryonic fibroblasts and macrophages and are likewise up-regulated by IFN- $\gamma$  stimulation.

## REFERENCES

1. Dever, T.E., et al. 1987. GTP-binding domain: three consensus sequence elements with distinct spacing. *Proc. Natl. Acad. Sci. USA* 84: 1814-1818.
2. Gilly, M. and Wall, R. 1992. The IRG-47 gene is IFN- $\gamma$  induced in B cells and encodes a protein with GTP-binding motifs. *J. Immunol.* 148: 3275-3281.
3. Sorace, J.M., et al. 1995. Identification of an endotoxin and IFN-inducible cDNA: possible identification of a novel protein family. *J. Leukoc. Biol.* 58: 477-484.
4. Carlow, D.A., et al. 1995. Isolation of a gene encoding a developmentally regulated T cell-specific protein with a guanine nucleotide triphosphate-binding motif. *J. Immunol.* 154: 1724-34.
5. Taylor, G.A., et al. 1996. Identification of a novel GTPase, the inducibly expressed GTPase, that accumulates in response to IFN- $\gamma$ . *J. Biol. Chem.* 271: 20399-20405.

## CHROMOSOMAL LOCATION

Genetic locus: Irgm2 (mouse) mapping to 11 B1.3.

## SOURCE

Irgm2 (M-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Irgm2 of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11088 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

Irgm2 (M-14) is recommended for detection of Irgm2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Irgm2 siRNA (m): sc-41790, Irgm2 shRNA Plasmid (m): sc-41790-SH and Irgm2 shRNA (m) Lentiviral Particles: sc-41790-V.

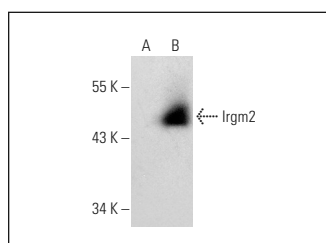
Molecular Weight of Irgm2: 45 kDa.

Positive Controls: Irgm2 (m): 293T Lysate: sc-369099.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Irgm2 (M-14): sc-11088. Western blot analysis of Irgm2 expression in non-transfected: sc-117752 (A) and mouse Irgm2 transfected: sc-369099 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Miyairi, I., et al. 2007. The p47 GTPases ligp2 and lrgb10 regulate innate immunity and inflammation to murine *Chlamydia psittaci* infection. *J. Immunol.* 179: 1814-1824.
2. Tiwari, S., et al. 2009. Targeting of the GTPase Irgm1 to the phagosomal membrane via PtdIns(3,4)P(2) and PtdIns(3,4,5)P(3) promotes immunity to mycobacteria. *Nat. Immunol.* 10: 907-917.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.