

# RIG-I (L-15): sc-48931

## BACKGROUND

The innate immune system senses viral infection by recognizing many different viral components and triggering specific antiviral responses. Intracellular double-stranded RNA (dsRNA) is a major sign of replication for many viruses. Retinoic acid inducible gene I (RIG-I) is a 925 amino acid, interferon-inducible cellular DExD/H box RNA helicase that activates type I interferon (IFN), an important effector of the innate immune system that is sensitive to these dsRNA viruses. dsRNA is normally present in very low quantities in cells, so when a virus is present, the elevated levels of dsRNA act as a sign telling RIG-I to activate the production of IFN. RIG-I does this by using its helicase domain to bind to viral dsRNA, thus transmitting the activation signal for IFN through I $\kappa$ B kinase-related kinases and inducing IFN expression. RIG-I is expressed in the cytoplasm of fibroblasts and conventional dendritic cells and can distinguish between many different RNA viruses.

## CHROMOSOMAL LOCATION

Genetic locus: DDX58 (human) mapping to 9p21.1; Ddx58 (mouse) mapping to 4 A5.

## SOURCE

RIG-I (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RIG-I of human 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-48931 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

RIG-I (L-15) is recommended for detection of RIG-I of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RIG-I (L-15) is also recommended for detection of RIG-I in additional species, including equine and porcine.

Suitable for use as control antibody for RIG-I siRNA (h): sc-61480, RIG-I siRNA (m): sc-61481, RIG-I shRNA Plasmid (h): sc-61480-SH, RIG-I shRNA Plasmid (m): sc-61481-SH, RIG-I shRNA (h) Lentiviral Particles: sc-61480-V and RIG-I shRNA (m) Lentiviral Particles: sc-61481-V.

Molecular Weight of RIG-I: 101 kDa.

Positive Controls: SK-MEL-28 cell lysate: sc-2236.

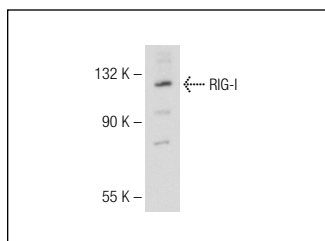
## STORAGE

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

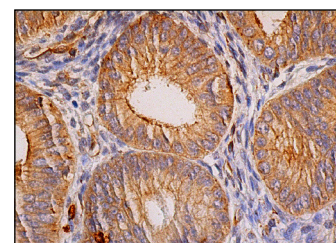
## RESEARCH USE

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

## DATA



RIG-I (L-15): sc-48931. Western blot analysis of RIG-I expression in SK-MEL-28 whole cell lysate.



RIG-I (L-15): sc-48931. Immunoperoxidase staining of formalin fixed, paraffin-embedded human premenopausal uterus tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

- Mukherjee, A., et al. 2009. Retinoic acid-induced gene-1 (RIG-I) associates with the actin cytoskeleton via caspase activation and recruitment domain-dependent interactions. *J. Biol. Chem.* 135: 6486-6494.
- Su, W.C., et al. 2009. Ribavirin enhances interferon signaling via stimulation of mTOR and p53 activities. *FEBS Lett.* 583: 2793-2798.
- Morosky, S.A., et al. 2011. Retinoic acid-induced gene-1 (RIG-I) associates with nucleotide-binding oligomerization domain-2 (NOD2) to negatively regulate inflammatory signaling. *J. Biol. Chem.* 286: 28574-28583.
- Berger, M., et al. 2012. Neutrophils express distinct RNA receptors in a non-canonical way. *J. Biol. Chem.* 287: 19409-19417.
- Klimmeck, D., et al. 2012. Proteomic cornerstones of hematopoietic stem cell differentiation: distinct signatures of multipotent progenitors and myeloid committed cells. *Mol. Cell. Proteomics* 11: 286-302.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **RIG-I (D-12): sc-376845**, our highly recommended monoclonal alternative to RIG-I (L-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **RIG-I (D-12): sc-376845**.