

RIG-I (H-300): sc-98911

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 κ 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.

REFERENCES

1. Sumpter, R., et al. 2005. Regulating intracellular antiviral defense and permissiveness to Hepatitis C virus RNA replication through a cellular RNA helicase, RIG-I. *J. Virol.* 79: 2689-2699.
2. Breiman, A., et al. 2005. Inhibition of RIG-I-dependent signaling to the interferon pathway during Hepatitis C virus expression and restoration of signaling by IKK ϵ . *J. Virol.* 79: 3969-3978.

CHROMOSOMAL LOCATION

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

SOURCE

RIG-I (H-300) is a rabbit polyclonal antibody raised against amino acids 1-281 mapping at the N-terminus of RIG-I of human origin.

PRODUCT

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

APPLICATIONS

RIG-I (H-300) is recommended for detection of RIG-I of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

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.

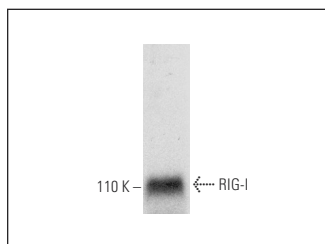
Molecular Weight of RIG-I: 101 kDa.

Positive Controls: SK-MEL-28 cell lysate: sc-2236 or MCF7 whole cell lysate: sc-2206.

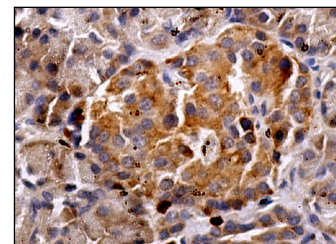
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz[™]: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



RIG-I (H-300): sc-98911. Western blot analysis of RIG-I expression in MCF7 whole cell lysate.



RIG-I (H-300): sc-98911. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans and glandular cells.

SELECT PRODUCT CITATIONS

1. Yang, D., et al. 2014. MiR-942 mediates hepatitis C virus-induced apoptosis via regulation of ISG12a. *PLoS ONE* 9: e94501.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **RIG-I (D-12): sc-376845**, our highly recommended monoclonal alternative to RIG-I (H-300).