

RIG-1 Antibody

RIG-1: Retinoic acid inducible gene 1 protein, RIG-I, Dead box protein 58, ddx58

CATALOG NO.: 3953

BACKGROUND:

The innate immune system detects viral infection by recognizing various viral components and triggers antiviral responses (1). Like the toll-like receptor 3 (TLR3), the cytoplasmic helicase retinoic acid inducible gene protein 1 (RIG-1) recognizes double-stranded (ds) RNA, a molecular pattern associated with viral infection (2,3). Unlike TLR3 however, RIG-1 activates the kinases TBK1 and IKK ϵ through the adaptor protein IPS-1. These kinases then phosphorylate the transcription factors IRF-3 and IRF-7 which are essential for the expression of type-I interferons (4). RIG-1 is required for the production of interferons in response to RNA viruses including paramyxoviruses, influenza virus, and Japanese encephalitis virus (5).

SOURCE:

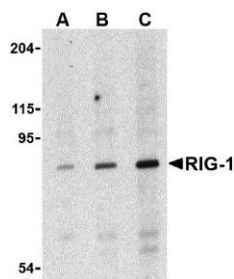
Rabbit polyclonal RIG-1 antibody was raised against a GST-tagged human RIG-1 protein (Genbank accession No. O95786).

APPLICATION:

RIG-1 antibody can be used for the detection of RIG-1 by Western blot at 0.5 – 1 μ g/ml. (Optimal dilution should be determined by user.) C2C12 cell lysate can be used as positive control. RIG-1 antibody is human, mouse and rat reactive. **This product is for research use only.**

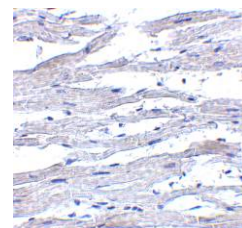
STORAGE:

RIG-1 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 RIG-1 in C2C12 cell lysate with RIG-1 antibody at (A) 0.5, (B) 1 and (C) 2 μ g/ml.

Immunohistochemistry of RIG-1 in human heart tissue with RIG-1 antibody at 5 μ g/ml.



RELATED PRODUCTS:

C2C12 Cell Lysate, Catalog No. **1285**.
TLR3 Antibody (CT), Catalog No. **3643**.
TBK1 Antibody (CT), Catalog No. **2351**.
IKK ϵ Antibody (CT), Catalog No. **2329**.
IRF-3 Antibody (CT), Catalog No. **3397**.
IRF-7 Antibody (CT), Catalog No. **3941**.

REFERENCES:

1. Akira S, Uematsu S, and Takeuchi O. Pathogen recognition and innate immunity. *Cell* 2006; 124:783-801.
2. Yoneyama M, Kikuchi M, Natsukawa T, et al. The RNA helicase RIG-I has an essential function in double-stranded RNA-induced innate antiviral responses. *Nat. Immunol.* 2004; 5:730-7.
3. Alexopoulou L, Holt AC, Medzhitov R, et al. Recognition of double-stranded RNA and activation of NF-kappaB by Toll-like receptor 3. *Nature* 2001; 413:732-8.
4. Sharma S, tenOever BR, Grandvaux N, et al. Triggering the interferon antiviral response through an IKK-related pathway. *Science* 2003; 300:1148-51.
5. Kato H, Takeuchi O, Sato S, et al. Differential roles of MDA5 and RIG-I helicases in the recognition of RNA viruses. *Nature* 2006; 441:101-5.
(08-01D)