PRODUCT INFORMATION

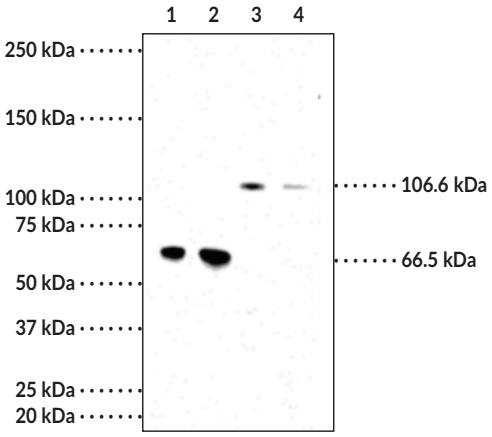
RIG-I Monoclonal Antibody (Clone 1E3)

Item No. 25300

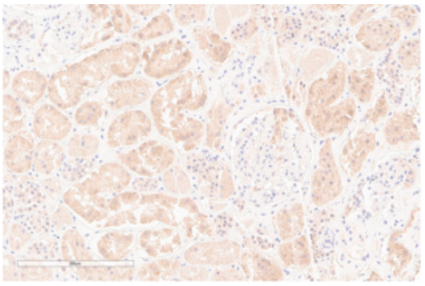
Overview and Properties

Contents:	This vial contains 100 µg of protein G-purified antibody.
Synonyms:	Probable ATP-dependent RNA Helicase DDX58, DEAD Box Protein 58, Retinoic Acid-inducible Gene 1 Protein, RIG-I-like Receptor 1
Immunogen:	Recombinant human RIG-I protein AA 232-794
Species Reactivity:	(+) Human, mouse; other species not tested
Uniprot No.:	O95786
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	1E3
Host:	Mouse
Isotype:	IgG2b
Applications:	ELISA, Western blot (WB), and immunohistochemistry (IHC); the recommended starting dilution for ELISA and WB is 1:1,000 and 1:200 for IHC. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: RIG-I (human recombinant) (AA 232-794) (5 ng)
Lane 2: RIG-I (human recombinant) (AA 232-794) (10 ng)
Lane 3: Jurkat cell lysate (50 µg)
Lane 4: MCF-7 cell lysate (50 µg)



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human kidney tissue after heat-induced antigen retrieval in pH 6.0 citrate buffer. After incubation with RIG-I monoclonal antibody (clone 1E3) (Item No. 25300) at a 1:200 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphate-streptavidin and chromogen (DAB).

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Description

Retinoic acid-inducible gene I (RIG-I), also known as DDX58, is a cytosolic DExD/H-box RNA helicase and an immune sensing receptor encoded by *DDX58* in humans.[1] It is composed of a C-terminal repressor domain, a central RNA helicase domain, and two N-terminal caspase recruitment domains (CARDs).[1,2] Following recognition of viral dsRNA by the C-terminal and helicase domains, the helicase domain induces an ATP-dependent conformational change, allowing for interaction of the CARD domains with mitochondrial antiviral-signaling protein (MAVS) and induction of a type I interferon (IFN) response.[1-3] RIG-I levels are elevated in the epidermis of patients with psoriasis.[2] *DDX58* expression is decreased in tumor tissues from patients with hepatocellular carcinoma (HCC) compared to nontumor hepatic tissue, and low *DDX58* expression is associated with poor disease prognosis.[4] Cayman's RIG-I Monoclonal Antibody (Clone 1E3) can be used for Western blot, ELISA, and immunohistochemistry applications. The antibody recognizes RIG-I at 106.6 kDa from human and mouse samples.

References

1. Hartmann, G. Nucleic acid immunity. *Adv. Immunol.* **133**, 121-169 (2017).
2. Matsumiya, T. and Stafforini, D.M. Function and regulation of retinoic acid-inducible gene-I. *Crit. Rev. Immunol.* **30(6)**, 489-513 (2010).
3. Takeuchi, O. and Akira, S. Innate immunity to virus infection. *Immunol. Rev.* **277(1)**, 75-86 (2009).
4. Hou, J., Zhou, Y., Zheng, Y., *et al.* Hepatic RIG-I predicts survival and interferon-α therapeutic response in hepatocellular carcinoma. *Cancer Cell.* **25(1)**, 49-63 (2014).

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