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LGP2 Antibody

Catalog # ASC10592

Product Information

Application	WB, E
Primary Accession	Q96C10
Other Accession	EAW60798, 119581202
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	76613
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	LGP2 antibody can be used for detection of LGP2 by Western blot at 1 - 2 g/mL.

Additional Information

Gene ID	79132
Other Names	Probable ATP-dependent RNA helicase DHX58, 3.6.4.13, Probable ATP-dependent helicase LGP2, Protein D11Lgp2 homolog, RIG-I-like receptor 3, RLR-3, RIG-I-like receptor LGP2, RLR, DHX58, D11LGP2E, LGP2
Target/Specificity	DHX58; At least four isoforms of LGP2 are known to exist.
Reconstitution & Storage	LGP2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	LGP2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DHX58 (HGNC:29517)
Synonyms	D11LGP2E, LGP2
Function	Acts as a regulator of RIGI and IFIH1/MDA5 mediated antiviral signaling. Cannot initiate antiviral signaling as it lacks the CARD domain required for activating MAVS/IPS1-dependent signaling events. Can have both negative and positive regulatory functions related to RIGI and IFIH1/MDA5 signaling and this role in regulating signaling may be complex and could probably depend on characteristics of the infecting virus or target cells, or both. Its inhibitory action on RIG- I signaling may involve the following mechanisms:

	competition with RIGI for binding to the viral RNA, binding to RIGI and inhibiting its dimerization and interaction with MAVS/IPS1, competing with IKBKE in its binding to MAVS/IPS1 thereby inhibiting activation of interferon regulatory factor 3 (IRF3). Its positive regulatory role may involve unwinding or stripping nucleoproteins of viral RNA thereby facilitating their recognition by RIGI and IFIH1/MDA5. Involved in the innate immune response to various RNA viruses and some DNA viruses such as poxviruses and coronavirus SARS-CoV-2, and also to the bacterial pathogen Listeria monocytogenes (PubMed:31256877). Can bind both ssRNA and dsRNA, with a higher affinity for dsRNA. Shows a preference to 5'-triphosphorylated RNA, although it can recognize RNA lacking a 5'-triphosphate.
Cellular Location	Cytoplasm.
Tissue Location	Expressed in testis, nerve and spleen. Also expressed in the brain.

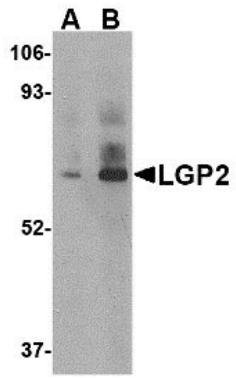
Background

LGP2 Antibody: Anti-viral innate immune responses are triggered by pathogen-associated molecular patters (such as the accumulation of intracellular nucleic acids resulting from virus infections) and represent the first line of defense against numerous infectious organisms. The Toll-like receptors (TLR) 3, 7, 8, and 9 are expressed in immune cells and function as transmembrane pattern recognition receptors to detect foreign nucleic acids. Other proteins that play similar roles, such as RIG-1 and MDA5 are members of a CARD-helicase family and are expressed in the cytoplasm. A third protein, LGP2, is similar to RIG-1 and MDA5, except for lacking a homologous CARD domain. It is thought to act as an element of negative-feedback regulation of intracellular antiviral signaling.

References

Akira S, Uematsu S, and Takeuchi O. Pathogen recognition and innate immunity. Cell 2006; 124:783-801.
Iwasaki A and Medzhitov R. Toll-like receptor control of the adaptive immune responses. Nat. Immunol. 2004; 5:987-95.
Yoneyama M, Kikuchi K, Matsumoto K, 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.
Andrejeva J, Childs KS, Young DF, et al. The V proteins of paramyxoviruses bind the IFN-inducible RNA helicase, mda-5, and inhibits its activation of the IFN-betta promoter. Proc. Natl. Acad. Sci. USA, 2004; 101:17264-9.

Images



Western blot analysis of LGP2 in rat kidney tissue lysate with LGP2 antibody at (A) 1 and (B) 2 µg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.