

# LGP2 (C-9): sc-373827

## BACKGROUND

Helicases are enzymes that catalyze the separation of double stranded DNA or RNA by utilizing ATP. LGP2, also known as probable ATP-dependent RNA helicase DHX58, is a 678 amino acid protein belonging to the helicase family. LGP2 acts as a negative regulator of host innate immune defense against viruses by binding dsRNA produced during viral replication. The repressor domain of LGP2 binds to RIG-I, a signaling protein involved in host defenses against hepatitis C virus (HCV). By preventing RIG-I multimerization, LGP2 negatively regulates RIG-I-mediated signaling. Localized to the cytoplasm, LGP2 contains one helicase ATP-binding domain and one helicase C-terminal domain.

## REFERENCES

1. Yoneyama, M., et al. 2005. Shared and unique functions of the DEX(D/H)-helicases RIG-I, MDA5, and LGP2 in antiviral innate immunity. *J. Immunol.* 175: 2851-2858.
2. Komuro, A., et al. 2006. RNA- and virus-independent inhibition of antiviral signaling by RNA helicase LGP2. *J. Virol.* 80: 12332-12342.
3. Saito, T., et al. 2007. Regulation of innate antiviral defenses through a shared repressor domain in RIG-I and LGP2. *Proc. Natl. Acad. Sci. USA* 104: 582-587.
4. Murali, A., et al. 2008. Structure and function of LGP2, a DEX(D/H) helicase that regulates the innate immunity response. *J. Biol. Chem.* 283: 15825-15833.
5. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 608588. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: DHX58 (human) mapping to 17q21.2.

## SOURCE

LGP2 (C-9) is a mouse monoclonal antibody raised against amino acids 520-678 mapping at the C-terminus of LGP2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LGP2 (C-9) is available conjugated to agarose (sc-373827 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373827 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373827 PE), fluorescein (sc-373827 FITC), Alexa Fluor<sup>®</sup> 488 (sc-373827 AF488), Alexa Fluor<sup>®</sup> 546 (sc-373827 AF546), Alexa Fluor<sup>®</sup> 594 (sc-373827 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-373827 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-373827 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-373827 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

LGP2 (C-9) is recommended for detection of LGP2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (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 LGP2 siRNA (h): sc-93967, LGP2 shRNA Plasmid (h): sc-93967-SH and LGP2 shRNA (h) Lentiviral Particles: sc-93967-V.

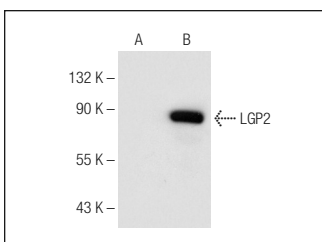
Molecular Weight of LGP2: 76 kDa.

Positive Controls: human LGP2 transfected HEK293T whole cell lysate.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 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 m-IgGκ BPFITC: sc-516140 or m-IgGκ BPE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



LGP2 (C-9): sc-373827. Western blot analysis of LGP2 expression in non transfected (A) and human LGP2 transfected (B) HEK293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Szymura, S.J., et al. 2020. DDX39B interacts with the pattern recognition receptor pathway to inhibit NFκB and sensitize to alkylating chemotherapy. *BMC Biol.* 18: 32.

## STORAGE

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

## PROTOCOLS

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

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA