

LGP2 (E-1): sc-373826

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., Kikuchi, M., Matsumoto, K., Imaizumi, T., Miyagishi, M., Taira, K., Foy, E., Loo, Y.M., Gale, M., Akira, S., Yonehara, S., Kato, A. and Fujita, T. 2005. Shared and unique functions of the DExD/H-box helicases RIG-I, MDA5, and LGP2 in antiviral innate immunity. *J. Immunol.* 175: 2851-2858.
2. Komuro, A. and Horvath, C.M. 2006. RNA- and virus-independent inhibition of antiviral signaling by RNA helicase LGP2. *J. Virol.* 80: 12332-12342.
3. Saito, T., Hirai, R., Loo, Y.M., Owen, D., Johnson, C.L., Sinha, S.C., Akira, S., Fujita, T. and Gale, M. 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., Li, X., Ranjith-Kumar, C.T., Bhardwaj, K., Holzenburg, A., Li, P. and Kao, C.C. 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™. 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 (E-1) 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_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

LGP2 (E-1) 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.

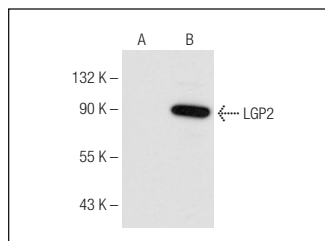
Molecular Weight of LGP2: 76 kDa.

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 BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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 BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



LGP2 (E-1): sc-373826. Western blot analysis of LGP2 expression in non transfected (A) and human LGP2 transfected (B) HEK293T whole cell lysates.

PROTOCOLS

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