SANTA CRUZ BIOTECHNOLOGY, INC.

LIGHT (4E3): sc-293480

BACKGROUND

Herpes virus entry mediator (HVEM), a type I transmembrane protein, is a member of the TNF receptor superfamily. HVEM mediates the entry of herpes simplex virus (HSV) 1 and 2 into T lymphocytes by serving as an attachment site for the HSV envelope glycoprotein D (gD). HVEM also binds two cellular ligands, secreted lymphotoxin a and light. LIGHT is a member of the TNF su-perfamily produced by activated T cells. This type II transmembrane protein competes with HSV glycoprotein D for binding to HVEM. LIGHT is closely related in sequence to lymphotoxin β (LTβ) and can also bind to the LTβ receptor. LIGHT is also known to induce apoptosis and suppress tumor formation.The gene encoding LIGHT maps to human chromosome 19p13.3.

REFERENCES

1. Montgomery, R.I., et al. 1996. Herpes simplex virus-1 entry into cells mediated by a novel member of the TNF/NGF receptor family. Cell 87: 427-436.
2. Marsters, S.A., et al. 1997. Herpes virus entry mediator, a member of the tumor necrosis factor receptor (TNFR) family, interacts with members of the TNFR-associated factor family and activates the transcription factors NFκB and AP-1. J. Biol. Chem. 30: 14029-14032.
3. Whitbeck, J.C., et al. 1997. Glycoprotein D of herpes simplex virus (HSV) binds directly to HVEM, a member of the tumor necrosis factor receptor superfamily and a mediator of HSV entry. J. Virol. 71: 6083-6093.
4. Mauri, D.N., et al. 1998. LIGHT, a new member of the TNF superfamily, and lymphotoxin α are ligands for herpesvirus entry mediator. Immunity 8: 21-30.
5. Zhai, Y., et al. 1998. LIGHT, a novel ligand for lymphotoxin β receptor and TR2/HVEM induces apoptosis and suppresses *in vivo* tumor formation via gene transfer. J. Clin. Invest. 15: 1142-1151.
6. Granger, S.W., et al. 2001. Genomic characterization of LIGHT reveals linkage to an immune response locus on chromosome 19p13.3 and distinct isoforms generated by alternate splicing or proteolysis. J. Immunol. 167: 5122-5128.

CHROMOSOMAL LOCATION

Genetic locus: TNFSF14 (human) mapping to 19p13.3.

SOURCE

LIGHT (4E3) is a mouse monoclonal antibody raised against amino acids 61-170 representing partial length LIGHT of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} kappa light chain in 0.5 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.

APPLICATIONS

LIGHT (4E3) is recommended for detection of LIGHT of human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (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 LIGHT siRNA (h): sc-39674, LIGHT shRNA Plasmid (h): sc-39674-SH and LIGHT shRNA (h) Lentiviral Particles: sc-39674-V.

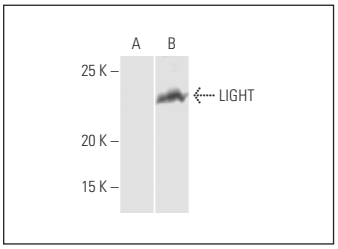
Molecular Weight of LIGHT: 29 kDa.

Positive Controls: LIGHT transfected 293T whole cell lysate.

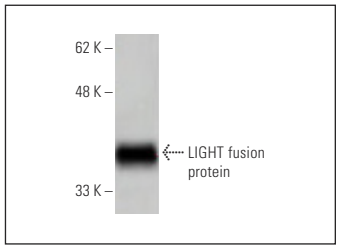
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



LIGHT (4E3): sc-293480. Western blot analysis of LIGHT expression in non-transfected (**A**) and LIGHT transfected (**B**) 293T whole cell lysates.



LIGHT (4E3): sc-293480. Western blot analysis of human recombinant LIGHT fusion protein.

SELECT PRODUCT CITATIONS

1. Ohe, R., et al. 2021. Nodal histiocytic sarcoma with prominent eosinophilic infiltration: expression of eotaxin-2 on tumor cells. Diagn. Pathol. 16: 6.

RESEARCH USE

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

PROTOCOLS

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