

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse LIGHT in direct ELISAs and Western blots. In Western blots, this antibody shows less than 10% cross-reactivity with recombinant mouse (rm) EDA, rmTRAIL, rmTRANCE, rmTWEAK, and rhVEGI but does not cross-react rm4-1BB Ligand, rhAPRIL, rmBAFF, rhEDA-A2, rmFas Ligand, rhGITR Ligand, rmGITR Ligand, rhLymphotoxin α_1/β_2 , rhLymphotoxin α_2/β_2 , rmOX40 Ligand, and rmTNF- α .
Source	Monoclonal Rat IgG _{2A} Clone # 261639
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse LIGHT Asp72-Val239 Accession # Q9QYH9
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μ m filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 μ g/mL	Recombinant Mouse LIGHT/TNFSF14 (Catalog # 1794-LT)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

LIGHT (lymphotoxin-like, exhibits inducible expression, and competes with HSV glycoprotein D for HVEM, a receptor expressed by T lymphocytes) is a member of the TNF superfamily and is designated TNFSF14. The gene for mouse LIGHT encodes a 239 amino acid residue (aa) type II transmembrane glycoprotein that contains a 37 aa N-terminal cytoplasmic domain, a 21 aa transmembrane region, and a 181 aa extracellular domain. A soluble form of mouse LIGHT is generated from the membrane form by proteolytic processing. Similar to other TNF ligand family members, LIGHT is assembled as a homotrimer. Mouse and human LIGHT share 71% aa sequence identity. LIGHT is expressed by activated lymphocytes, natural killer cells, immature dendritic cells, monocytes and granulocytes. Mouse LIGHT binds and signals via two distinct TNF receptor superfamily members, including the herpes virus entry mediator (HVEM/TNFRSF14) and the lymphotoxin β receptor (LT β R/TNFRSF3). In humans, LIGHT also binds the soluble human decoy receptor 3 (DcR3/TNFRSF6B). Signaling from LT β R, which also binds LT $\alpha\beta$, induces apoptosis and the production of various cytokines. LIGHT-LT β R signaling also plays a role in mesenteric lymph node organogenesis, and restoration of secondary lymphoid structure and function. Signaling from HVEM, which also binds LT α , co-stimulates T-helper cell type 1 (TH1) immune responses, enhances Cytotoxic T Lymphocytes (CTL)-mediated tumor immunity, and regulates allogeneic T cell activation and allograft rejection. Blockade of LIGHT-HVEM signaling has been shown to prevent graft versus host disease.

References:

1. Granger, S.W. and S. Rickert (2003) Cytokine Growth Factor Rev. **14**:289.