9853 Pacific Heights Blvd.
Suite D. San Diego,
CA 92121, USA
Tel: 858-263-4982
Email: info@abeomics.com

12-8507: Anti-LCMV nucleoprotein – Purified in vivo PLATINUM™ Functional Grade Antibody (Clone VL-4)

Clonality :	Monoclonal
Clone Name :	VL-4
Application :	Functional Assay,ELISA,FACS,IF
Gene :	LCMV Nucleoprotein
Uniprot ID :	P07400
Format :	Purified
Alternative Name :	Protein N , LCMV Nucleocapsid Protein
Isotype :	Rat IgG2a κ
Immunogen Information :	Lymphocytic choriomeningitis virus (LCMV)

Description

Specificity: VL-4 activity is directed against LCMV nucleoprotein, staining LCMV-infected cells internally.

VL-4 does not react with influenza-, vaccinia-, or vesicular stomatitis-infected cells.

Background: Lymphocytic choriomeningitis virus (LCMV) is a neglected human pathogenic arenavirus with worldwide distribution. Arenaviruses cause human infection through mucosal exposure to aerosols or by direct contact with abraded skin of infected rodents. LCMV infection may carry health risks for humans who are immunocompromised or pregnant.

LCMV infection in mice can be acute or persistent depending on age, immunocompetence, genetic background, route of infection, strain, and dosage. Due to the versatility of outcome, LCMV mouse models are extensively used to examine basic questions of immunology and virology, including: virus-induced immunopathological disease, MHC restriction, T cell and B cell regulation, T cell-mediated killing, and immune T cell therapy in clearing viral infection. LCMV mouse models were used to identify PD-1 as a critical regulator of T cell exhaustion and have also been used to study the synergy between PD-1 blockade and IL-2 cytokine in cancer immunotherapy.

LCMV is an enveloped virus with a bi-segmented negative-stranded, ambisense RNA genome. LCMV has a non-cytolytic life cycle restricted to the cell cytoplasm. Cell entry is cholesterol-dependent but clathrin-, dynamin-, caveolin-, ARF6-, flotillin-, and actin-independent and occurs via receptor-mediated endocytosis utilizing alpha-dystroglycan as the main extracellular matrix protein receptor. Most of the disease caused by LCMV is mediated by the host T cell response.

Arenavirus nucleoprotein (NP) is the most abundant viral protein component in virions as well as in infected cells. NP encapsidates the viral genomic RNA and is part of the viral ribonucleoprotein complex that directs viral RNA replication and gene transcription in the cytoplasm of infected cells. NP also counteracts host type I interferon response during infection via a functional 3’–5’ exonuclease domain in its C-terminal region. The same domain also interacts with LCMV Z, as well as Lassa Virus Z, but different residues are involved. This NP-Z interaction is a novel target for antiviral drug development.

VL-4 antibody was generated by immunizing a (Louvain X DA) F1 rat with LCMV strain WE and fusing the resulting spleen cells with the YM3 myeloma cell line.

Product Info

Amount :	5mg / 1 mg

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Purification :	≥98% monomer by analytical SEC·>95% by SDS Page Preparation: Functional grade preclinical antibodies are manufactured in an animal free facility using only in vitro protein free cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.
Content :	Concentration: ≥ 5.0 mg/ml Formulation: This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.
Storage condition :	This antibody may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C. Avoid Repeated Freeze Thaw Cycles.

Application Note

Research Use Only