

Human CD49D/IA4 (Natalizumab) Antibody

Biosimilar Recombinant Human Monoclonal Antibody

Product Information

Product No.: LT1100
Clone: Hu114
RRID: AB_2893887
Isotype: Human IgG4k
Storage: Sterile 2° to 8°C

Product Description

Specificity:

This non-therapeutic biosimilar antibody uses the same variable region sequence as the therapeutic antibody Natalizumab. Natalizumab binds to the alpha 4 subunit of $\alpha 4\beta 1$ and $\alpha 4\beta 7$ integrins. This product is for research use only.

Antigen Distribution:

CD49D is a subunit of the integrin VLA-4, which is expressed on the cell surfaces of stem cells, progenitor cells, T and B cells, monocytes, natural killer cells, eosinophils, and neutrophils.

Background:

Natalizumab is characterized as a disease-modifying therapy for multiple sclerosis (a disease of the central nervous system (CNS)), and inflammatory bowel disease. It works by inhibiting the migration of leukocytes to inflammation sites. The VCAM-1 and $\alpha 4\beta 1$ -integrin interaction is necessary for leukocyte adhesion, firm attachment, and transmigration across the blood-brain barrier into the CNS. Natalizumab, a recombinant, humanized antibody, binds to $\alpha 4\beta 1$ -integrin and blocks its interaction with VCAM-1. Hence, leukocyte migration into brain tissue is inhibited, thereby reducing inflammation and preventing the formation of multiple sclerosis lesions.¹ Inflammation in the gut pertaining to inflammatory bowel disease can be controlled in a similar fashion. Blocking $\alpha 4\beta 7$ -integrin with a humanized, monoclonal antibody, specific to the $\alpha 4\beta 7$ heterodimer inhibits the migration of leukocytes into the inflamed intestinal tissue, thus, reducing inflammation in the gut.² This cost-effective, research-grade Anti-Human CD49D (Natalizumab) utilizes the same variable regions from the therapeutic antibody Natalizumab making it ideal for research projects.

Known Reactivity Species:

Human

Expression Host:

HEK-293 Cells

Format:

Purified No Carrier Protein

Immunogen:

RAMOS cell line injected into mice.

Formulation

This biosimilar 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.

Purity

≥95% by SDS Page, ≥95% monomer by analytical SEC

Endotoxin

< 1.0 EU/mg as determined by the LAL method

Storage and Stability

Functional grade preclinical antibodies 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.

Product Preparation

Recombinant biosimilar 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.

Pathogen Testing

To protect mouse colonies from infection by pathogens and to assure that experimental preclinical data is not affected by such pathogens, all of Leinco's recombinant biosimilar antibodies are tested and guaranteed to be negative for all pathogens in the IDEXX IMPACT I Mouse Profile.

Applications

Applications and Recommended Usage (Quality Tested By Leinco):

FC The suggested concentration for Natalizumab biosimilar antibody for staining cells in flow cytometry is ≤ 0.25 µg per 10⁶ cells in a volume of 100 µl. Titration of the reagent is recommended for optimal performance for each application.

Other Applications Reported in Literature:

B

Country of Origin

USA

References

- 1) Hutchinson, M. (2007) Ther Clin Risk Manag. 3(2):259-68.
- 2) Vandervoort, M. et al. (2005) N Engl J Med 352:2499-507.