Leinco Technologies, Inc.
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Mouse CD3 Antibody

Recombinant in vivo Functional Grade
Recombinant Monoclonal Antibody

Product Information

Product No.: C2457
Clone: 17A2
RRID: AB_2737469
Isotype: Rat IgG2b κ
Storage: Sterile 2-8°C

Product Description

Specificity:
17A2 activity is directed against the mouse TCR αβ- and TCR γ?-associated CD3 molecular complex via the CD3ε chain.

Antigen Distribution:
CD3 is expressed on T cells.

Background:
CD3 is an invariant antigen of the T cell receptor (TCR) [1]. The CD3/TCR complex is composed of a αβ or γ? TCR heterodimer noncovalently associated with invariant CD3 dimers ?γ, ??, and ?? in a 1:1:1:1 stoichiometry. The TCR mediates recognition of antigenic peptides bound to major histocompatibility complex (MHC) molecules on antigen-presenting cells, while the CD3 portion of the complex transduces activation signals to the T cell nucleus. Together, TCR and CD3 molecules initiate protective immunity against microbes and cancers.

17A2 has been explored as a treatment against graft-versus-host disease [2,3]. 17A2 leads to T cell depletion in vivo that is associated with a significant reduction in B cell population [4]. Additionally, 17A2 is less mitogenic that some other anti-CD3 antibodies (i.e., 145-2C11 hamster IgG and KT3 rat IgG2a) [3]. FcγRI may be involved in 17A2 activity [5].

17A2 was generated by immunizing female Sprague-Dawley rats with homogenized γ? TCR$^+$ T-T hybridoma cells (D1 line) [6]. The resulting rat cells were fused to P3X63-Ag8-653 non-secreting mouse myeloma cells and hybridomas were screened for the secretion of IL-2 in the presence of D1 cells.

Known Reactivity Species:
Mouse

Expression Host:
HEK-293 Cells

Format:
Purified No Carrier Protein

Immunogen:
γ/δ TCR-positive T-T hybridoma D1

Formulation
This recombinant 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.ltration.

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

Endotoxin
< 1.0 EU/mg as determined by the LAL method

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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 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.

Applications
Applications and Recommended Usage (Quality Tested By Leinco):
FC The suggested concentration for this 17A2 antibody for staining cells in flow cytometry is ≤ 1.0 µg per 10^6 cells in a volume of 100 µl. Titration of the reagent is recommended for optimal performance for each application.

Other Applications Reported in Literature:

PhenoCycler-Fusion (CODEX)®
FA2,3,5,6
Depletion2,4,5
IP6
RIA6
IHC (Frozen) The suggested concentration for this 17A2 antibody in IHC staining on frozen tissue is 5.0 - 10 µg per ml. Titration of the reagent is recommended for optimal performance for each application.

Country of Origin
USA

References
1. Mariuzza RA, Agnihotri P, Orban J. J Biol Chem. 295(4):914-925. 2020.
2. Mysliwietz J, Thierfelder S. Blood. 80(10):2661-2667. 1992.
3. Vossen AC, Tibbe GJ, Kroos MJ, et al. Eur J Immunol. 25(6):1492-1496. 1995.
4. Loubaki L, Tremblay T, Bazin R. J Immunol Methods. 393(1-2):38-44. 2013.
5. Kummer U, Zengerle U, Pischel J, et al. Immunol Lett. 75(2):153-158. 2001.
6. Miescher GC, Schreyer M, MacDonald HR. Immunol Lett. 23(2):113-118. 1989.