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Monoclonal Antibody to CD154 / CD40L - FITC

Alternate names: CD40 ligand, CD40-L, CD40LG, GP39, T-cell antigen Gp39, TNF-related activation protein, TNFSF5, TRAP, Tumor necrosis factor ligand superfamily member 5

Catalog No.: AM08043FC-N

Quantity: 0.5 mg

Concentration: 0.5 mg/ml

Background: CD154, formerly known as CD40 ligand and gp39, is a type II integral membrane protein and a member of the tumor necrosis factor (TNF) family of ligands. (Ref.1-7) It is an important accessory molecule in T cell-B cell costimulatory interactions, and is expressed predominantly on activated CD4+ T lymphocytes. It is also present on the surface of activated Th0, Th1, and Th2 T cell clones. Its expression is transient and cyclosporinsensitive. (Ref.6) The MR1 monoclonal antibody binds to murine CD154 with high affinity, blocks binding to CD40, and blocks CD154 function. (Ref.1,5) Administration of this antibody to mice blocks the ability to mount primary and secondary immune responses to TD antigens, yet does not alter the immune response to TI antigens. (Ref.4)

Uniprot ID: P27548

NCBI: 10090

Host / Isotype: Hamster / IgG

Clone: MR1

Immunogen: Activated mouse Th1 clone D1.6 (Ref.1)

Format:
State: Liquid purified Ig fraction.
Buffer System: PBS containing 0.09% Sodium Azide as preservative.
Label: FITC – Fluorescein Isothiocyanate Isomer 1

Applications:
Flow Cytometry: < / 2 µg/10e6 cells. (Ref.1,5)
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody is specific to CD154 (CD40 ligand/gp39), Mr 39-kDa.
Species: Mouse.
Other species not tested.

Storage: Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
This product is photosensitive and should be protected from light.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:
1. Noelle, R.J., M. Roy, D.M. Shepherd, I Stamenkovic, J.A. Ledbetter, and A. Aruffo. 1992. Proc. Natl. Acad. Sci. U.S.A. 89:6550.
2. Aruffo, A., M. Farrington, D. Hollenbaugh, X. Li, A. Milatovich, S. Nonoyama, J. Bajorath,

L.S. Grosmaire, R. Stenkamp, and M. Neubauer. 1993. Cell 72:291.
3. Hollenbaugh, D., L.S. Grosmaire, C.D. Kullas, N.J. Chalupny, S. Braesch-Andersen, R.J. Noelle, I. Stamenkovic, J.A. Ledbetter, and A. Aruffo. 1992. EMBO J. 11:4313.
4. Foy, TM., DM Shepherd, F.H. Durie, A. Aruffo, J.A. Ledbeter, and R.J. Noelle. 1993. J. Exp. Med. 178:1567.
5. Foy, T.M., D.M. page, T.J. Waldschmidt, A. Schoneveld, J.D. Laman, S.R. Masters, L. Tygrett, J.A. Ledbetter, A. Aruffo, and E. Claassen. 1995. J. Exp. Med. 182:1377.
6. Roy, M., T.J. Waldschmidt, A. Aruffo, J.A. Ledbetter, and R.J. Noelle. 1993. J. Immunol. 151:2497.
7. Armitage, R.J., W.C. Fanslow, L. Stockbine, T.A. Sato, K.N. Clifford, B.M. Macduff, D.M. Anderson, S.D. Gimpel, T. Davis-Smith, and C.R. Maliszewski. 1992. Nature 357:80.

Pictures:

Immunofluoscent Staining: Partially purified spleen T cells from BALB/c mice were incubated with either Hamster IgG or plate-bound Hamster anti-Mouse CD3e (clone 145-2C11) for 7 hours at 37°C. The cells were then harvested, double-stained with anti-CD154/CD40L-FITC and anti-CD4+8-PE, and analyzed by flow cytometry. Amount Used: 2 µg/10e6 cells.