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Monoclonal Antibody to CD120a / TNFR1 - PE

Alternate names: TNF-R1, TNF-RI, TNFR-I, Tnfrsf1a, Tumor necrosis factor receptor 1, Tumor necrosis factor receptor superfamily member 1A, Tumor necrosis factor receptor type I, p55, p60

Catalog No.: CL044R

Quantity: 50 Tests

Concentration: 0.1 mg/ml

Background: Tumor Necrosis Factor (TNF) is a cytokine whose function is mediated through two distinct cell surface receptors (TNF Receptor I and TNF Receptor II) that are included in the TNF Receptor superfamily along with FAS antigen and CD40. TNF Receptors I and II are 55 and 75 kDa members, respectively, of a family of cell surface molecules including nerve growth factor receptor, Fas/Apo1, CD30, OX40, and 41BB, which are characterized by cysteine rich motifs in the extracellular domain. While TNF Receptor I and TNF Receptor II share 28% sequence homology in the extracellular domains, their intracellular domains lack sequence homology, suggesting that they differ in their internal signal transduction pathways. TNF Receptor I contains an approximately 80 amino acid death domain near its carboxy terminus capable of transmitting an apoptotic signal through its interaction with TRADD (TNF Receptor I associated death domain protein), and subsequent interactions with FADD. TNF Receptor I can also activate the transcription factor NFkB via TRAF2 (TNF Receptor associated factor 2). The cytoplasmic domain of TNF Receptor I can directly interact with Jak kinase, thereby activating the JAK/STAT signal transduction cascade.
TNF Receptor I is expressed by virtually all nucleated mammalian cells, including hepatocytes, monocytes and neutrophils, cardiac muscle cells, endothelial cells, and CD34 + hematopoietic progenitors. Both TNF alpha and TNF beta bind to TNF Receptor I.

Uniprot ID: P25118

NCBI: 10090

Host / Isotype: Rat / IgG2a

Clone: HM104

Format: **State:** Liquid purified IgG fraction
Buffer System: PBS containing 0.09% Sodium Azide as preservative and EIA grade BSA as a stabilizing protein to bring total protein concentration to 4-5 mg/ml.
Label: PE – R-Phycoerythrin

Applications: **Flow Cytometry.**
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

This Antibody reacts with the extracellular part of the Mouse TNF-Receptor (p55) and with the soluble receptor.
Species: Mouse.
Other species not tested.

Storage:

Store the antibody undiluted at 2-8°C.
DO NOT FREEZE!
This antibody is photosensitive and should be protected from light.
Shelf life: one year from despatch.

Protocols:

FLOW CYTOMETRY ANALYSIS:

Method:

1. Prepare a cell suspension in media A. For cell preparations, deplete the red blood cell population with Lympholyte®-M cell separation medium.
2. Wash 2 times.
3. Resuspend the cells to a concentration of $2x10^7$ cells/ml in media A. Add 50 µl of this suspension to each tube (each tube will then contain $1 x 10^6$ cells, representing 1 test).
4. To each tube, add ~1.0 µg* of this Ab per 10^6 cells.
5. Vortex the tubes to ensure thorough mixing of antibody and cells.
6. Incubate the tubes for 30 minutes at 4°C. (It is recommended that the tubes are protected from light, since most fluorochromes are light sensitive.)
7. Wash 2 times at 4°C.
8. Resuspend the cell pellet in 50 µl ice cold media B.
9. Transfer to suitable tubes for flow cytometric analysis containing 15 µl of propidium iodide at 0.5 mg/ml in PBS. This stains dead cells by intercalating in DNA.

Media:

A. Phosphate buffered saline (pH 7.2) + 5% normal serum of host species + Sodium Azide (100 µl of 2M Sodium Azide in 100 mls).
B. Phosphate buffered saline (pH 7.2) + 0.5% Bovine Serum Albumin + Sodium Azide (100 µl of 2M Sodium Azide in 100 mls).

Tissue Distribution by Flow Cytometry Analysis:

Mouse Strain: CBA
Cell Concentration: $1x10^6$ cells per test
Antibody Concentration Used: 1.0 µg/10^6 cells
Isotypic Control: PE Rat IgG2a
Cell Source: Spleen
Percentage of Cells Stained Above Control: 7.10%

Pictures: