bsm-33052M **[Primary Antibody]**

CD45 Mouse mAb

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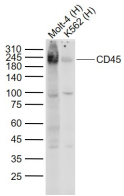
DATASHEET

Host: Mouse
Isotype: IgG1
Clonality: Monoclonal
CloneNo.: 14A9
GeneID: 5788
SWISS: P08575
Target: CD45
Purification: affinity purified by Protein G
Concentration: 1mg/ml
Storage: Size : 50ul/100ul/200ul
0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
Size : 200ug (PBS only)
0.01M PBS
Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

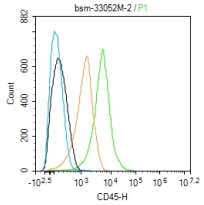
Background: The protein encoded by this gene is a member of the protein tyrosine phosphatase (PTP) family. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. This PTP contains an extracellular domain, a single transmembrane segment and two tandem intracytoplasmic catalytic domains, and thus belongs to receptor type PTP. This gene is specifically expressed in hematopoietic cells. This PTP has been shown to be an essential regulator of T- and B-cell antigen receptor signaling. It functions through either direct interaction with components of the antigen receptor complexes, or by activating various Src family kinases required for the antigen receptor signaling. This PTP also suppresses JAK kinases, and thus functions as a regulator of cytokine receptor signaling
CD45 (LCA, leukocyte common antigen) is a receptor-type protein tyrosine phosphatase (PTP) ubiquitously expressed in all nucleated hematopoietic cells, comprising approximately 10% of all surface proteins in lymphocytes. CD45 is absent on non-hematopoietic cell lines, normal and malignant, non-hematopoietic tissues. CD45 glycoprotein is crucial in lymphocyte development and antigen signaling, serving as an important regulator of Src-family kinases. CD45 protein exists as multiple isoforms as a result of alternative splicing, differ in their extracellular domains but share identical transmembrane and cytoplasmic domains. CD45RA is an isoform of the CD45 complex and has restricted expression between different subtypes of lymphoid cells. CD45 isoforms differ in their ability to translocate into the glycosphingolipid-enriched membrane domains and their expression depends on cell type and physiological state of the cell. CD45 has been shown to be an essential regulator of T- and B-cell antigen receptor signaling and suppresses JAK kinases to regulate cytokine receptor signaling. CD45 is also important in promoting cell survival by modulating integrin-mediated signal transduction pathway, DNA fragmentation during apoptosis and inhibition or upregulation of various immunological functions.

Applications: **WB** (1:500-1000)
Flow-Cyt (0.5ug/Test)
Reactivity: Human
Predicted MW.: 143 kDa
Observed MW.: 220 kDa
Subcellular Location: Cell membrane

VALIDATION IMAGES



Sample: Lane 1: Molt-4 (Human) Cell Lysate at 30 ug Lane 2: K562 (Human) Cell Lysate at 30 ug



Blank control:U937. Primary Antibody (green line): Mouse Anti-CD45 antibody (bsm-33052M)

Primary: Anti-CD45 (bsm-33052M) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Mouse IgG at 1/20000 dilution Predicted band size: 220 kD Observed band size: 220 kD

Dilution: 1:50; Secondary Antibody : Goat anti-mouse IgG-FITC Dilution: 0.5ug/Test. Protocol The cells were incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.

SELECTED CITATIONS

- **[IF=6.799]** Smriti Arora. et al. Antibody mediated cotton-archetypal substrate for enumeration of circulating tumor cells and chemotherapy outcome in 3D tumors. Lab Chip. 2022 Feb;: IHC ;Human. 35266489
- **[IF=6.1]** Xue Lulu. et al. Transplantation of human placental chorionic plate-derived mesenchymal stem cells for repair of neurological damage in neonatal hypoxic-ischemic encephalopathy. NEURAL REGEN RES. 2023 Dec;:10.4103/1673 IF ;Human. 10.4103/1673-5374.390952