Rat CD44 Antibody

Monoclonal Mouse IgG_{2B} Clone # 740017

Catalog Number: MAB6577

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat CD44 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human, mouse, or porcine CD44 is observed.
Source	Monoclonal Mouse IgG_{2B} Clone # 740017
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat CD44 Gln22-Thr223 (predicted) Accession # P26051
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

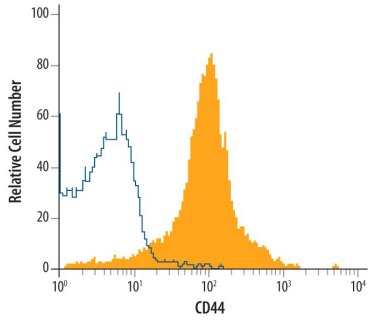
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Flow Cytometry	2.5 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Flow Cytometry



Detection of CD44 in Rat Splenocytes by Flow Cytometry. Rat $CD4^+$ splenocytes were stained with Mouse Anti-Rat CD44 Monoclonal Antibody (Catalog # MAB6577, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B).

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

CD44 is a ubiquitously expressed protein that is the major receptor for hyaluronan and exerts control over cell growth and migration (1-5). Mouse CD44 has a 22 amino acid (aa) signal sequence, an extracellular domain (ECD) with a 100 aa hyaluronan-binding disulfide-stabilized link region and a 48-463 aa stem region, a 21 aa transmembrane domain, and a 72 aa cytoplasmic domain. Within the stem, ten variably spliced exons (v1-10, exons 6-15) produce multiple protein isoforms (1-5). The standard or hematopoietic form, CD44H, does not include the variable segments (1-5). Cancer aggressiveness and T cell activation have been correlated with expression of specific isoforms (2, 4). With variable N- and O-glycosylation and splicing within the stalk, CD44 can range from 80 to 200 kDa (1, 2). Within the N-terminal invariant portion of the ECD (aa 23-222), mouse CD44 shares 92%, 77%, 77%, 79% and 71% identity with corresponding rat, human, equine, canine and bovine CD44, respectively. The many reported functions of CD44 fall within three categories (1, 2). First, CD44 binds hyaluronan and other ligands within the extracellular matrix and can function as a “platform” for growth factors and metalloproteinases. Second, CD44 is a co-receptor that modifies activity of receptors including MET and the ErbB family of tyrosine kinases. Third, the CD44 intracellular domain links the plasma membrane to the actin cytoskeleton via the ERM proteins, ezrin, radixin and moesin. CD44 can be synthesized in a soluble form (4) or may be cleaved at multiple sites by either membrane-type matrix metalloproteinases, or ADAM proteases to produce soluble ectodomains (6, 7). The cellular portion may then undergo gamma secretase-dependent intramembrane cleavage to form an Aβ-like transmembrane portion and a cytoplasmic signaling portion that affects gene expression (8, 9). These cleavage events are thought to promote metastasis by enhancing tumor cell motility and growth (1, 2, 6).

References:

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