

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
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.

*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

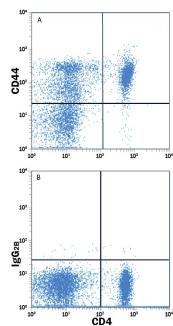
APPLICATIONS

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	5 µL/10 ⁶ cells	See Below

DATA

Flow Cytometry



Detection of CD44 in Rat Splenocytes by Flow Cytometry. Rat splenocytes were stained with Mouse Anti-Rat CD4 APC-conjugated Monoclonal Antibody and either (A) Mouse Anti-Rat CD44 Alexa Fluor® 488-conjugated Monoclonal Antibody (Catalog # FAB6577G) or (B) Mouse IgG_{2B} Alexa Fluor 488 Isotype Control (Catalog # IC0041G). View our protocol for [Staining Membrane-associated Proteins](#).

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze.

- 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

CD44 is a ubiquitously expressed protein that is a major receptor for hyaluronan and exerts control over cell growth and migration (1-5). Mouse CD44 has an extracellular domain (ECD) that contains a 100 amino acid (aa) hyaluronan-binding disulfide-stabilized link region, plus 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), rat CD44 shares 91% and 75% aa sequence identity with corresponding mouse and human 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 or may be cleaved at multiple sites by either membrane-type matrix metalloproteinases or ADAM proteases to produce soluble ectodomains (4, 6, 7). The cellular portion may then undergo gamma secretase-dependent intramembrane cleavage to form an Aβ-like transmembrane portion and a cytoplasmic signaling molecule 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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