Human CD44s Pan Specific PE-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 2C5

Catalog Number: FAB4948P

100 TESTS

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD44s on a panel of CD44 transfected COS cells by flow cytometry (Fox, S.B. *et al.* (1994) Cancer Res. **54:**4539). This antibody recognizes an epitope in the invariant N-terminal region of all CD44 protein isoforms.
Source	Monoclonal Mouse IgG_{2A} Clone # 2C5
Purification	Protein A or G purified from ascites
Immunogen	Recombinant human CD44v3-10 (includes the invariant N-terminal exons and CD44v3-10 exons)
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 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.

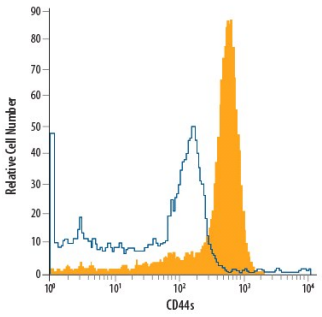
APPLICATIONS

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	10 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of CD44 in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were stained with Mouse Anti-Human CD44s Pan Specific PE-conjugated Monoclonal Antibody (Catalog # FAB4948P, filled histogram) or isotype control antibody (Catalog # IC003P, open histogram). 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.

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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 (1-3). Human CD44 has a 20 amino acid (aa) signal sequence, an extracellular domain (ECD) with a 100 aa hyaluronan-binding disulfide-stabilized link region and a 325-530 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 (1–3). The standard or hematopoietic form, CD44s, does not include the variable segments (1–3). Cancer aggressiveness and T cell activation have been correlated with expression of specific isoforms (1, 3). With variable N- and O-glycosylation and splicing within the stalk, CD44 can range from 80-200 kDa (1). Within the N–terminal invariant portion of the ECD (aa 21-220), human CD44 shares 76%, 76%, 86%, 83%, and 79% identity with corresponding mouse, rat, equine, canine, and bovine CD44, respectively. The many reported functions of CD44 fall within three categories (1). First, CD44 binds hyaluronan and other ligands within the extracellular matrix and can function as a “platform” for growth factors and metalloproteinases. Second, CD44 can function as 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 (5, 6). 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 (7, 8). These cleavage events are thought to promote metastasis by enhancing tumor cell motility and growth (1, 5).

References:

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8. Lammich, S. *et al.* (2002) J. Biol. Chem. **277**:44754.