

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD44 in direct ELISA.
Source	Monoclonal Mouse IgG _{2B} Clone # 1058722
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived human CD44 Gln21-Thr222 Accession # P16070
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*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.

Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

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 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. CD44 transcripts undergo complex alternative splicing, and, within the stem, ten variably spliced exons (v1-10 corresponding to exons 6-15; although human CD44 lacks v1/exon 6) produce multiple protein isoforms (1-4). The standard or hematopoietic form, CD44H, does not include the variable segments (1-4). Cancer aggressiveness and T cell activation have been correlated with expression of specific isoforms (1, 4, 5). Human CD44v5 contains exon 10 and is associated with tumor progression and metastasis in many types of cancer including breast, colon, lung, renal, skin, and ovarian tumors (6, 12). With variable N- and O-glycosylation and splicing within the stalk, CD44 can range from 80 to 200 kDa (1). Within the N-terminal invariant portion of the ECD (aa 21-222), 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 (6) or may be cleaved at multiple sites by either membrane-type matrix metalloproteinases, or ADAM proteases to produce soluble ectodomains (8, 9). The cellular portion may then undergo gamma secretase-dependent intramembrane cleavage to form an A beta-like transmembrane portion and a cytoplasmic signaling portion that affects gene expression (10, 11). These cleavage events are thought to promote metastasis by enhancing tumor cell motility and growth (1, 8). CD44v5 plays important role in cancer progression involving in cell migration and invasion and is considered a functional cancer biomarker (6, 12).

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