

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD44v3 in Western blots. The specificity of monoclonal antibody clone 3G5 was determined by FACS analysis on a panel of CD44 transfected COS cells, and was deduced to be specific for CD44 protein isoforms containing human variant exon 3 (9).
Source	Monoclonal Mouse IgG _{2B} Clone # 3G5
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Recombinant human CD44v3-10
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and 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.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	MDA-MB-231 human breast cancer cell line

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. <ul style="list-style-type: none"> 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. Within the stem, ten variably spliced exons (v1-10, exons 6-15) produce multiple protein isoforms (1-3). The standard or hematopoietic form, CD44H, 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 to 200 kDa (1). Within the N-terminal invariant portion of the ECD (aa 21-220), human CD44 shares 76%, 76%, 86%, 83% and 79% aa sequence 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:

1. Ponta, H. *et al.* (2003) *Nat. Rev. Mol. Cell Biol.* **4**:33.
2. Sreaton, G.R. *et al.* (1992) *Proc. Natl. Acad. Sci. USA* **89**:12160.
3. Lynch, K.W. (2004) *Nat. Rev. Immunol.* **4**:931.
4. Yu, Q. and B.P. Toole (1996) *J. Biol. Chem.* **271**:20603.
5. Nagano, O. and H. Saya (2004) *Cancer Sci.* **95**:930.
6. Nakamura, H. *et al.* (2004) *Cancer Res.* **64**:876.
7. Murakami, D. *et al.* (2003) *Oncogene* **22**:1511.
8. Lammich, S. *et al.* (2002) *J. Biol. Chem.* **277**:44754.
9. Fox, S.B. *et al.* (1994) *Cancer Res.* **54**:4539.

Human CD44 Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 3G5

Catalog Number: FAB5088T

100 µg

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