Human CD44v6 Antibody

Monoclonal Mouse IgG_1 Clone # 2F10

Catalog Number: BBA13

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD44v6 in Western blots. By flow cytometry analysis using a panel of CD44-transfected COS cells (9), monoclonal antibody clone 2F10 was deduced to be specific for human CD44 protein isoforms containing variant exon 6 (CD44v6).
Source	Monoclonal Mouse IgG_1 Clone # 2F10
Purification	Protein A or G purified from ascites
Immunogen	Recombinant human CD44 v3-10
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

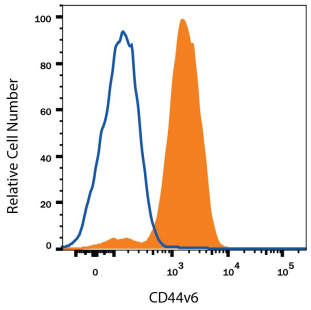
APPLICATIONS

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
Western Blot	1 µg/mL	Recombinant Human CD44 v3-10
Flow Cytometry	0.25 µg/10^6 cells	See Below
Immunocytochemistry	8-25 µg/mL	Immersion fixed A431 human epithelial carcinoma cell line
Immunohistochemistry	1-25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Immunoprecipitation	Fox, S.B. *et al.* (1994) Cancer Res. **54**:4539.	

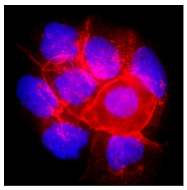
DATA

Flow Cytometry

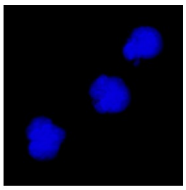


Detection of CD44 in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were stained with Mouse Anti-Human CD44 v6 Monoclonal Antibody (Catalog # BBA13, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B).

Immunocytochemistry



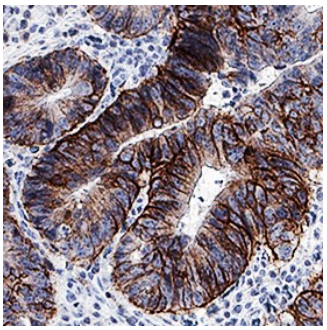
Positive (A431 cells)



Negative (Daudi cells)

CD44 in A431 Human Cell Line. CD44 was detected in immersion fixed A431 human epithelial carcinoma cell line (positive staining) and Daudi human Burkitt's lymphoma cell line (negative staining) using Mouse Anti-Human CD44 v6 Monoclonal Antibody (Catalog # BBA13) at 25 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cell surface. Staining was performed using our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Immunohistochemistry



CD44 in Human Colon Adenocarcinoma Tissue. CD44 was detected in immersion fixed paraffin-embedded sections of human colon adenocarcinoma tissue using Mouse Anti-Human CD44 v6 Monoclonal Antibody (Catalog # BBA13) at 1.7 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to plasma membrane. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

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Human CD44v6 Antibody

Monoclonal Mouse IgG_1 Clone # 2F10

Catalog Number: BBA13

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.
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.

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). CD44v6 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. 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% 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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7. Murakami, D. *et al.* (2003) Oncogene **22**:1511.
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