



CD44

IHC of CD44 on an FFPE Kidney Tissue

Description The CD44 protein is a cell-surface glycoprotein involved in cell-cell interactions, cell adhesion and migration. CD44 is also known as Homing-cell adhesion molecule (H-CAM) and Phagocytic glycoprotein-1 (PgP-1). A specialized sialofucosylated glycoform of CD44 called HCELL is found natively on human hematopoietic stem cells and functions as a "bone-homing receptor", directing migration of human hematopoietic stem cells and mesenchymal stem cells to bone marrow.

This protein participates in a wide variety of cellular functions including lymphocyte activation, recirculation and homing, hematopoiesis, and tumor metastasis. Transcripts for this gene undergo complex alternative splicing that results in many functionally distinct isoforms; however, the full-length nature of some of these variants has not been determined. Splice variants of CD44 on Colon Cancer cells display the HCELL glycoform, which mediates binding to vascular E-selectin under hemodynamic flow conditions, a critical step in Colon Cancer metastasis. In addition, variations in CD44 are reported as cell surface markers for some breast and prostate cancer stem cells and have been seen as an indicator of increased survival time in Epithelial Ovarian Cancer patients.

Antibody Type	Mouse Monoclonal	Clone	MRQ-13
Isotype	IgG2a	Reactivity	Paraffin, Frozen
Localization	Membranous	Control	Tonsil, Kidney, Esophageal CA
Storage	Store at 2°-8°C	Stability	2 years

For long-term storage of the concentrated antibody, it is recommended that aliquots of the antibody be frozen at -20°C in glycerol 50% (frost-free freezers are not recommended). Repeated freezing and thawing must be avoided. Dilute using an antibody diluent such as ImmunoDetector Protein Block/Antibody Diluent (BSB 0040 and BSB 0041) or ImmunoDNA Background Blocker (BSB 0103-BSB 0107).

Presentation CD44 is a mouse monoclonal antibody derived from cell culture supernatant that is concentrated, dialyzed, filter sterilized and diluted in buffer pH 7.5, containing BSA and sodium azide as a preservative.

Availability	Catalog No.	Antibody Type	Dilution	Volume/QTY
	BSB 6233	Prediluted	Ready-To-Use	3.0 ml
	BSB 6234	Prediluted	Ready-To-Use	7.0 ml
	BSB 6235	Prediluted	Ready-To-Use	15.0 ml
	BSB 6236	Concentrated	1:250- 1:1000	0.1 ml
	BSB 6237	Concentrated	1:250- 1:1000	0.5 ml
	BSB 6238	Concentrated	1:250- 1:1000	1.0 ml
	BSB 6239	Control Slides		5

Note: For concentrated antibodies, please centrifuge prior to use to ensure recovery of all product.

- References**
- Li et al. *Cell Research*. 2007;17:3-14
 - Sillanpää S, et al. *Clin Cancer Res*. 2003;9(14):5318-24
 - Yasuda M, et al. *Histol. Histopathol*. 2003;17(3): 945-50
 - Ponta H, et al. *Nat. Rev. Mol. Cell Biol*. 2003;4(1): 33-45

Protocol Suggested protocol on reverse

Recommended Immunohistochemical Protocol

- Pretreatment**
1. Cut and mount 3-4 micron formalin-fixed paraffin-embedded tissues on positive charged slides.
 2. Air dry for 2 hours at 58° C.
 3. Deparaffinize, dehydrate and rehydrate tissues.
 4. Subject tissues to heat epitope retrieval using a suitable retrieval solution such as **ImmunoDNA Retriever with Citrate** (BSB 0020-BSB 0023) or **EDTA** (BSB 0030-BSB 0033).
 5. Any of three heating methods may be used:
 - a. **Electric Pressure Cooker**
Place standoff rack at base of pressure cooker. Add 1-2 inches of distilled water to the pressure cooker and turn heat to high, and incubate for 15 minutes. Open and immediately transfer slides to room temperature.
 - b. **Water Bath Method**
Place tissues/slides in a pre-warmed staining dish or coplin jar containing the **ImmunoDNA Retriever with Citrate** or **EDTA** in a water bath set at 95°-99° C. Incubate for 30-60 minutes.
 - c. **Conventional Steamer Method**
Place tissues/slides in a pre-warmed staining dish or coplin jar containing the **ImmunoDNA Retriever with Citrate** or **EDTA** in a Steamer, cover and steam for 30-60 minutes.
 6. After heat treatment, transfer slides in **ImmunoDNA Retriever with Citrate** or **EDTA** to room temperature and let stand for 15-20 minutes.
 7. Wash slides with IHC wash buffer or DI water.
 8. Continue IHC staining protocol.

Immunohistochemical Protocol

Step	ImmunoDetector (AP or HRP)	PolyDetector (AP or HRP)
Peroxidase/AP Block	5 minutes	5 minutes
Primary Antibody	30 minutes	45 minutes
Secondary Biotinylated Link	10 minutes	Not Applicable
AP or HRP Label	10 minutes	45 minutes
Substrate-Chromogen	5-10 minutes	10 minutes
Counterstaining	Time varies with counterstain	Time varies with counterstain

