



EMA

IHC of EMA on an FFPE Breast Tissue

Description Epithelial Membrane Antigen (EMA) antibody is a mucin-like glycoprotein, shown to be useful as a pan-epithelial marker for detecting early metastatic loci of carcinoma in the bone marrow or liver. It stains normal and neoplastic cells from various tissues, including mammary epithelium, sweat glands and squamous epithelium.

Hepatocellular Carcinoma, Adrenal Carcinoma and Embryonal Carcinomas are consistently EMA negative, so keratin positivity with negative EMA favors one of these tumors. EMA is frequently positive in meningioma, which can be useful when distinguishing it from other intracranial neoplasms. The absence of EMA can also be of value since negative EMA is characteristic of some tumors including Adrenal Carcinoma, Seminomas, Paraganglioma and Hepatoma.

Antibody Type	Mouse Monoclonal	Clone	E29
Isotype	IgG2a/K	Reactivity	Paraffin, Frozen
Localization	Membranous	Control	Breast, Skin
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 EMA 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 5477	Prediluted	Ready-To-Use	3.0 ml
	BSB 5478	Prediluted	Ready-To-Use	7.0 ml
	BSB 5479	Prediluted	Ready-To-Use	15.0 ml
	BSB 5480	Concentrated	1:500-1:2000	0.1 ml
	BSB 5481	Concentrated	1:500-1:2000	0.5 ml
	BSB 5482	Concentrated	1:500-1:2000	1.0 ml
	BSB 5483	Control Slides		5

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

- References**
1. Pincus GS, et al. *Human Pathol.* 1985;16:929-940
 2. Pincus GS, et al. *Am J Clin Pathol.* 1986;77:269-277
 3. Dearnaly DP, et al. *Br J Cancer.* 1981;44:85-90
 4. Redding WH, et al. *Lancet.* 1983;1271-1274
 5. Cordell J, et al. *Brit J Cancer.* 1985;52:347-354

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

