



CEA

IHC of CEA on an FFPE Colon Adenocarcinoma Tissue

Description Carcinoembryonic antigen (CEA) is a glycoprotein involved in cell adhesion. It is normally produced during fetal development, but the production of CEA stops before birth. Therefore, it is not usually present in the blood of healthy adults, although levels are raised in heavy smokers. CEA is synthesized during development in the fetal gut, and is re-expressed in increased amounts in Intestinal Carcinomas and several other tumors.

CEA is employed essentially as a tool to assist in the distinction between Adenocarcinoma and Malignant Mesotheliomas of the epithelial type, along with other markers for mucosubstances such as Leu M1 and Ber-EP4. Another suggested use of CEA is the immunophenotyping of various Metastatic Adenocarcinomas as a means of identifying their origin.

| | | | |
|----------------------|------------------|-------------------|------------------|
| Antibody Type | Mouse Monoclonal | Clone | CEA31 |
| Isotype | IgG1/K | Reactivity | Paraffin, Frozen |
| Localization | Cytoplasmic | Control | Colon |
| 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 Carcinoembryonic Antigen 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 5337 | Prediluted | Ready-To-Use | 3.0 ml |
| | BSB 5338 | Prediluted | Ready-To-Use | 7.0 ml |
| | BSB 5339 | Prediluted | Ready-To-Use | 15.0 ml |
| | BSB 5340 | Concentrated | 1:500-1:2000 | 0.1 ml |
| | BSB 5341 | Concentrated | 1:500-1:2000 | 0.5 ml |
| | BSB 5342 | Concentrated | 1:500-1:2000 | 1.0 ml |
| | BSB 5343 | Control Slides | | 5 |

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

- References**
1. Go VLW, et al. *Cancer*. 1976;37:562-566
 2. Delellis RA, et al. *Am J Clin Pathol*. 1978;50:587-594
 3. Kamino H, et al. *Cancer*. 1988;61:1142-1148
 4. Tron V, et al. *Arch Pathol Lab Med*. 1987;111:291-293

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 |

