Epithelial Membrane Antigen (EMA) [E29]

Format	Catalog No.	Pack size	Dilution
Concentrated	GB 3038 A,B,C	0.1,0.5, 1.0 mL	1:100
Prediluted	GB 3038 AA	6.0 mL	Ready to use

PRODUCT DESCRIPTION -

The epithelial membrane antigen antibody (EMA) is part of a diverse group of extensively glycosylated transmembrane proteins referred to as human milk fat globule (HMFG) membrane proteins. This antigen family is not exclusive to breast tissue but can also be present in secretory epithelial cells, albeit to a lesser extent, in non-secretory epithelium (e.g., squamous epithelium) and infrequently in non-epithelial cells. EMA is optimally regarded as a broad-spectrum antibody that exhibits reactivity towards several forms of adenocarcinoma. Breast and cutaneous adnexal neoplasms exhibit high positivity. Carcinomas of the endometrium, kidney, thyroid, stomach, pancreas, lung, colon, ovary, prostate, and cervix exhibit a reduced level of staining. Embryonal carcinomas, medullary thyroid carcinomas, squamous carcinomas, sarcomas, lymphomas, and melanomas generally exhibit nonreactivity or demonstrate infrequent positive cells. Transitional cell carcinomas may exhibit modest reactivity, but anaplastic large cell lymphomas can test positive for EMA.

INTENDED USE -

Epithelial Membrane Antigen (EMA) [E29] is a murine monoclonal antibody designed for laboratory applications to qualitatively identify epithelial membrane antigen protein via immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. The clinical interpretation of any staining or its absence must be supplemented by morphological studies utilizing appropriate controls and assessed in conjunction with the patient's clinical history and other diagnostic tests by a skilled pathologist.

SUMMARY AND EXPLANATION -

Epithelial membrane antigen (EMA) is one of a diverse group of extensively glycosylated transmembrane proteins referred to as human milk fat globule (HMFG) membrane proteins. This antigen family is not limited to breast tissue but may also be present in secretory epithelial cells, to a lesser extent in non-secretory epithelium (e.g., squamous epithelium), and infrequently in non-epithelial cells. EMA is optimally regarded as a broad-spectrum antibody that exhibits reactivity towards several forms of adenocarcinoma. Breast and cutaneous adnexal neoplasms exhibit high positivity.

Carcinomas of the endometrium, kidney, thyroid, stomach, pancreas, lung, colon, ovary, prostate, and cervix exhibit a reduced degree of staining. Embryonal carcinomas, medullary thyroid carcinomas, squamous carcinomas, sarcomas, lymphomas, and melanomas generally exhibit nonreactivity or infrequent positive cell occurrences. Transitional cell carcinomas may exhibit modest reactivity, but anaplastic large cell lymphomas can test positive for EMA.

PRINCIPLE OF PROCEDURE -

Antigen detection in tissues and cells involves a multi-step immunohistochemistry process. The first step attaches the primary antibody to its designated epitope. Following the tagging of the antigen with a primary antibody, a one-, two-, or three-step detection protocol may be utilized. The one-step approach will utilize an enzyme-conjugated polymer that attaches to the main antibody. A two-step protocol will involve the addition of a secondary antibody to bind to the original antibody. An enzyme-conjugated polymer is subsequently introduced to bind to the secondary antibody. The three-step detection protocol will incorporate a secondary antibody to bind to the primary antibody, succeeded by a linker antibody step to enhance binding efficacy. An enzyme-conjugated polymer is subsequently introduced to attach to the linker antibody. The presence of bound antibodies is demonstrated by a colorimetric response.

SOURCE - Mouse monoclonal

SPECIES REACTIVITY - Human; others not tested

CLONE - E29

ISOTYPE - : IgG2a

PROTEIN CONCENTRATION - ~10 mg/ml. Call for lot specific Ig concentration.

EPITOPE/ANTIGEN - Epithelial membrane antigen

CELLULAR LOCALISATION - Cell membrane and cytoplasmic

POSITIVE TISSUE CONTROL - Colon and breast cancer

KNOWN APPLICATIONS - Immunohistochemistry
30-40 min. At RT. Staining of formalin-fixed tissues requires heating tissue sections in between pH 7.4 - 9.0 for 45 min at 95ºC followed by cooling at room temperature for 20 minutes.

SUPPLIED AS - Buffer with protein carrier and preservative

STORAGE AND STABILITY -

Store at 2ºC to 8ºC. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2ºC to 8ºC.

Materials required but not provided -

1) Positive tissue control - Colon and breast cancer
2) Negative control tissue(internal or external)
3) Microscope slides and coverslips
4) Staining jars or baths
5) Timer
6) Xylene or xylene substitute
7) Ethanol or reagent alcohol
8) Deionized or distilled water
9) Heating equipment or enzyme for tissue pretreatment step
10) Detection system
11) Chromogen
12) Wash buffer
13) Hematoxylin
14) Antibody diluents
15) Peroxide block
16) Light microscope
17) Mounting medium

LIMITATIONS -

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Genebio products. Ultimately, it is the responsibility of the investigator to determine optimal conditions.