Anti-Human EpCAM (CD326)  
Epithelial Tumor Cell Marker  
Mouse Monoclonal Antibody Ber-EP4  

Product Information

Catalog No.: DIA-326-P  
DIA-326-LM (sample)  
Clone: Ber-EP4  
Unit Size: DIA-326-P: 400-800 tests  
DIA-326-LM: 80-160 tests  
Isotype: Mouse IgG1  
Specificity: Human EpCAM (CD326)  
Immunogen: Breast carcinoma cell line MCF-7  
Physical State: DIA-326-P: Lyophilized powder  
DIA-326-LM: Liquid sample (100 μl)  
Species Reactivity: Human  
Positive Control: Columnar epithelium, adenocarcinoma  
Visualization: Cytoplasmic

Reconstitution: DIA-326-P: Restore to 500μl with sterile destilled water by 10min. gentle shaking  
DIA-326-LM: Liquid, no reconstitution  
Presentation: In PBS with 2% BSA, 0.05% Na3, pH 7.4. Antibody purified from culture supernatant by GAM (goat anti-mouse) affinity chromatography  
Applications: Immunohistochemistry (standard formalin-fixed paraffin and frozen sections)  
Western blot  
Dilutions: 1:80 - 1:160 (Immunohistochemistry)  
(General recommendation, optimal dilutions should be determined by the end user)  
Antigen Retrival: Pretreatment of deparaffinised paraffin-embedded tissue sections with protease K. Heat-induced epitope retrieval is not recommended.

Application

The monoclonal antibody Ber-EP4 is highly suitable for the discrimination between basal cell carcinomas and squamous cell carcinomas of the epidermis. Ber-EP4 is also of great help in identifying remnants of basal cell carcinomas at the margin of biopsies or in biopsies with squeezing artefacts and also in recognizing basal cell carcinoma in statu nascendi (see figures below). Ber-EP4 is also of value for another important differential diagnosis which is the distinction between mesotheliomas and adenocarcinomas. Mesotheliomas are Ber-EP4-negative, while adenocarcinomas are Ber-EP4-positive. Because of reported exceptions it is recommended to apply Ber-EP4 in context with an appropriate antibody panel. Ber-EP4 may also be of help in tumors of presumed endodermal epithelial cell origin, if anti-cytokeratin antibodies do not produce clear results. Additionally, Ber-EP4 is of value for the diagnosis of EpCAM-positive carcinomas as a prerequisite to treat malignant ascites with Catumaxomab.

Reactivity

The monoclonal antibody Ber-EP4 reacts with a specific epitope of the Epithelial Cell Adhesion Molecule (EpCAM) which is a protein complex consisting of two glycoproteins of 34 and 39 kDa. The Ber-EP4 EpCAM epitope is expressed by the vast majority of adenocarcinomas, neuroendocrine tumors such as small cell carcinomas of the lung. In non-neoplastic tissue sweat glands and hair bulbs express the Ber-EP4 epitope. Squamous cell carcinomas of the endoderm and the mesoderm usually express the Ber-EP4 epitope while those of the ectoderm are Ber-EP4-negative. The cells of the epidermis (squamous epithelium of the ectoderm) and mesothel do not express the Ber-EP4 epitope. This is also true for carcinomas of the epidermis and for mesothelomas with rare exceptions. The rare exceptions reported might be due to inappropriate antigen retrieval by heat instead by protease K. Noteworthy, basal cell carcinomas are consistently and strongly positive for the Ber-EP4 epitope. With the Ber-EP4 monoclonal antibody even basal cell carcinomas in statu nascendi can be recognized (see figures below) which is not possible in H&E stained sections.

Instructions for Use

The binding of the Ber-EP4 antibody can be made visible with all available detection methods. Essential is not the detection system but the application of the correct antigen retrieval method. The Ber-EP4 epitope can be made accessible by pretreatment of deparaffinised sections with protease K. Do not try to unmask the Ber-EP4 epitope by heat as this usually does not work or produces non-specific (falsely positive) staining.

Storage and Stability

The Ber-EP4 antibody in lyophilised (absolutely dry) form is stable for many years. In liquid form (following reconstitution) the Ber-EP4 antibody is stable for several months when stored at 2-8°C.
Safety Notes
The material contains 0.05% sodium azide as preservative. Although the quantity of azide is very small, appropriate care should be taken when handling this material. Avoid skin and eye contact, inhalation, and ingestion.

Figures
(pictures courtesy of Prof. Dr. Harald Stein, Pathodiagnostik-Berlin, Berlin, Germany)
F: Immunoprecipitation of the Ber-EP4 antigen (34 and 39 kDa-glycoprotein) from 125 I surface labeled MCF-7 cells.

References

For research use only. Not for diagnostic or therapeutic use.