



# Anti- human EMA Mouse Monoclonal Primary Antibody

Clone: UMAB41

**IVD**

**REF** CE00052

## CATALOG NUMBER

C0052MA01-MA 0.1 mL  
C0052MA05-MA 0.5 mL  
C0052MA10-MA 1.0 mL

## ENGLISH

### Intended use

Anti- human Epithelial Membrane Antigen (EMA) (Clone: UMAB41) Mouse Monoclonal Primary Antibody is intended for detection of EMA protein expression in frozen or formalin fixed human tissues and cells. The clinical interpretation of any positive staining or its absence should be complemented by morphological and histological studies with proper controls. Evaluations should be made within the context of the patient's clinical history and other diagnostic tests by a qualified pathologist. The antibody is intended for *in vitro* diagnostic (IVD) use.

### Background

This gene encodes a membrane-bound protein that is a member of the mucin family. Mucins are O-glycosylated proteins that play an essential role in forming protective mucous barriers on epithelial surfaces. These proteins also play a role in intracellular signaling. This protein is expressed on the apical surface of epithelial cells that line the mucosal surfaces of many different tissues including lung, breast stomach and pancreas. This protein is proteolytically cleaved into alpha and beta subunits that form a heterodimeric complex. The N-terminal alpha subunit functions in cell-adhesion and the C-terminal beta subunit is involved in cell signaling. Overexpression, aberrant intracellular localization, and changes in glycosylation of this protein have been associated with carcinomas. This gene is known to contain a highly polymorphic variable number tandem repeats (VNTR) domain. Alternate splicing results in multiple transcript variants.[provided by RefSeq, Feb 2011].

Alternative names: MUC-1

### Reagent provided

Anti-human EMA Mouse Monoclonal Primary Antibody (Clone: UMAB41) is provided in liquid form in 20mM Sodium phosphate, 150mM Sodium chloride, 0.2% BSA, 0.09% Sodium azide, pH 7.4. The isotype of the antibody is IgG1. The protein concentration is approximately 0.8 +/- 0.05 mg/mL.

For immunohistochemistry, the primary antibody may be used at a working dilution of 1:100 – 1:200 for formalin-fixed, paraffin-embedded human tissue. It can be dependent upon the detection system used. These are guidelines only, and optimal dilutions should be determined by the individual laboratory.

### Immunogen



Full length human recombinant protein of human MUC1 (NP\_001018016) produced in HEK293T cell

### Specificity

The specificity of the anti- human EMA Mouse Monoclonal Primary Antibody was established on known positive colon and stomach cancer. The anti-human EMA presented no staining on formalin fixed, human spleen and positive staining on formalin fixed colon and stomach cancer, using immunohistochemical (IHC) test methods.

### Materials Required but Not Supplied

Antibody diluent, HIER solution, Antibody detection kits, Chromogen, Staining reagents, negative and positive tissue control slides are not included.

### Precautions

1. For use by trained professionals only.
2. This product contains sodium azide ( $\text{NaN}_3$ ), a chemical highly toxic in pure form. At product concentrations, though not classified as hazardous,  $\text{NaN}_3$  may react with lead and copper plumbing to form highly explosive build-ups of metal azides. Upon disposal, flush with large volumes of water to prevent metal azide build-up in plumbing.
3. Wear appropriate Personal Protective Equipment to avoid contact with eyes and skin.
4. Unused reagents should be disposed of according to local, State, and Federal regulations.

### Storage

Store at 2-8°C. Do not use the product past the expiration date indicated on the label. If reagents are stored under any other conditions, the end user must verify the acceptability of those conditions. There are no obvious signs to indicate instability of this product therefore, positive and negative controls should be run simultaneously with patient specimens.

### Specimen Preparation

#### Paraffin Sections

Anti- human EMA Mouse Monoclonal Primary Antibody can be used on formalin-fixed, paraffin-embedded tissue sections at a working dilution of 1:100 to 1:200. Anti- human EMA Mouse Monoclonal Primary Antibody (Clone: UMAB41) working dilution requires 10 minutes pretreatment with Heat Induced Epitope Retrieval (HIER) for staining. We recommend using Accel 3in1 HIER EDTA pH 8.7, which showed optimal staining at a dilution of 1:200 on human colon and stomach cancer and negative staining on normal human spleen. The dilutions are estimates; the actual staining results may vary due to reagents and detection protocols used. Validation of antibody performance and final protocol are the responsibility of the end user.

### Staining procedure

#### Manual Staining Procedure

1. Deparaffinize slides.
2. Submerge slides in peroxidase quenching solution for ~10 minutes and rinse with PBS-T 3 times, 2 minutes each.
3. Heat Induced Epitope Retrieval is required for this antibody.
4. Apply serum blocking solution.[Optional]
5. Apply primary antibody and incubate for 30-60 minutes at room temperature. After incubation wash with PBS-T 3 times, 2 minutes each.
6. Apply secondary antibody and incubate according to the data sheet of the detection system. Wash with PBS-T 3 times, 2 minutes each.
7. Apply enzyme conjugate and incubate according to data sheet of detection system. Wash with PBS-T 3 times, 2 minutes each.
8. Apply chromogen and incubate 5-10 minutes and rinse with distilled water.

### Staining interpretation

The cellular staining pattern for Anti- human EMA Mouse Monoclonal Primary Antibody is cytoplasmic and membraneous.

### Performance Characteristics

#### Predicted Staining in Normal Tissue/Cells

Spleen tissue was shown to be negative for this antibody.

#### Predictive Staining in Tumor

Anti- human EMA Mouse Monoclonal (Clone: UMAB41) produced strong cytoplasmic and membraneous staining when screened on human colon and stomach cancer.

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