



# Anti- human TOP2A Mouse Monoclonal Primary Antibody

Clone: UMAB145

**IVD**

**REF** CE00007

## CATALOG NUMBER

C0007MA01-MA 0.1 mL  
C0007MA05-MA 0.5 mL  
C0007MA10-MA 1.0 mL

## ENGLISH

### Intended use

Anti-human TOP2A (Clone: UMAB145) Mouse Monoclonal Primary Antibody is intended for laboratory use in the immunohistochemistry detection of DNA topoisomerase 2-alpha 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

DNA topoisomerase II-alpha (gene name: TOP2A) is an enzyme that controls and alters the topologic states of DNA during transcription. This nuclear enzyme is involved in processes such as chromosome condensation, chromatid separation, and the relief of torsional stress that occurs during DNA transcription and replication. It catalyzes the transient breaking and rejoining of two strands of duplex DNA which allows the strands to pass through one another, thus altering the topology of DNA. Two forms of this enzyme exist as likely products of a gene duplication event. A variety of mutations have been associated with the development of drug resistance. Reduced activity of this enzyme may also play a role in ataxia-telangiectasia.

Alternative names: TOP2, TP2A

### Reagent provided

Anti-human TOP2A Mouse Monoclonal Primary Antibody (Clone: UMAB145) 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 0.6 +/- 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

Human recombinant protein fragment corresponding to amino acids 1100-1531 of human TOP2A(NP\_001058) produced in E.coli.

## Specificity

The specificity of the anti-human TOP2A Mouse Monoclonal Primary Antibody was established on normal human kidney and human colon cancer. The anti- TOP2A presented no staining on normal human kidney and positive staining on human colon cancer tissue 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 TOP2A Mouse Monoclonal Primary Antibody can be used on formaldehyde fixed, paraffin-embedded tissue sections at a working dilution of 1:100 to 1:200. Anti-human TOP2A Mouse Monoclonal Primary Antibody (Clone: UMAB145) working dilution requires 20 minutes of pretreatment with Heat Induced Epitope Retrieval (HIER) for staining. We recommend using Accel HIER pH 8.5 buffer from GBI Labs, which showed optimal staining at a dilution of 1:200 on human colon cancer and negative staining on normal human kidney. 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 3% peroxidase quenching solution for ~10 minutes and rinse with distilled water 2 times, 2 minutes each.
3. Heat Induced Epitope Retrieval is required for this antibody. We recommend Accel pH 8.5 HIER buffer [GBI Labs B22C-100].
4. Wash with PBS buffer 3 times, 2 minutes each before staining.
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 TOP2A Mouse Monoclonal Primary Antibody is nuclear.

## Performance Characteristics

### Predicted Staining in Normal Tissue/Cells

The normal human kidney was shown to be negative for this antibody.

Anti-human TOP2A Mouse Monoclonal Primary Antibody (Clone: UMB145) produced nuclear staining when screened on human colon cancer.

## Contact Information



SDIX LLC  
111 Pencader Drive  
Newark, Delaware 19702  
USA  
+1 302 456 6789  
+1 800 544 8881(USA)  
[www.SDIX.com](http://www.SDIX.com)

## Product Complaint and/or Technical Support

[techsupport@origene.com](mailto:techsupport@origene.com)  
+1 301 340 3188 (prompt 2)

## Authorized Representative

Colin LeGood  
Barnes Wallis House, 25 Barnes Wallis Road  
Segensworth East, Hampshire PO15 5TT UK  
Tel +44 (0) 1489 898640