

Topoisomerase II alpha

Format	Catalog No.	Pack size	Dilution
Concentrated	GB3045A,B	0.1, 0.5 mL	1:100
Prediluted	GB3045AA	6.0 mL	Ready to use

PRODUCT DESCRIPTION -

Topoisomerase II alpha (Topo IIa) is crucial for DNA synthesis, RNA transcription, and chromosomal segregation during mitosis. It is identified as a sensitive and specific marker for the late S, G2, and M stages in both transformed and developmentally controlled normal cells. Topo IIa is associated with drug resistance in tumor cells and is demonstrated to be over-expressed in numerous human malignancies. The primary mechanism of resistance to many chemotherapeutic drugs is the reduced expression of Topo IIa.

INTENDED USE -

Topoisomerase II alpha [31] is a mouse monoclonal antibody designed for laboratory application in the qualitative detection of topoisomerase II alpha 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 -

Topoisomerase II alpha (Topo IIa) is crucial for DNA synthesis and transcription, as well as chromosomal segregation during mitosis. It is identified as a sensitive and specific marker for the late S, G2, and M stages in both transformed and developmentally controlled normal cells. Topo IIa is implicated in the drug resistance of tumor cells and is overexpressed in numerous human malignancies. The primary mechanism of resistance to many chemotherapeutic drugs is the reduced expression of Topo IIa. A notable variance in the expression levels of this protein has been documented across various malignancies.

PRINCIPLE OF PROCEDURE -

Antigen identification in tissues and cells is a multi-phase immunohistochemistry procedure. The first step attaches the primary antibody to its designated epitope. Following the tagging of the antigen with a primary antibody, a secondary antibody is

introduced to attach to the primary antibody. An enzyme label is subsequently introduced to attach to the secondary antibody; the detection of the attached antibody is demonstrated by a colorimetric reaction.

SOURCE - Mouse monoclonal

SPECIES REACTIVITY - Human; others not tested

IMMUNOGEN - Human Topo II α aa. 1245-1361

CLONE - 31

ISOTYPE - Mouse IgG1

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

EPI TOPE/ANTIGEN - Topoisomerase II alpha

CELLULAR LOCALISATION - Nuclear

POSITIVE TISSUE CONTROL - Cervix or tonsil

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 95°C followed by cooling at room temperature for 20 minutes.

SUPPLIED AS - Buffer with protein carrier and preservative

STORAGE AND STABILITY -

Store at 2°C to 8°C. 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 2°C to 8°C.

Materials required but not provided -

- 1) Positive tissue control - Cervix or tonsil
- 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.