Topoisomerase 2 alpha monoclonal antibody

Catalog: MB66169 Host: Mouse Reactivity: Human

BackGround:

DNA topoisomerases I and II are nuclear enzymes; type II consists of two highly homologous isoforms: topoisomerase IIα and IIβ. These enzymes regulate the topology of DNA, maintain genomic integrity, and are essential for processes such as DNA replication, recombination, transcription, and chromosome segregation by allowing DNA strands to pass through each other. Topoisomerase I nicks and rejoins one strand of the duplex DNA, while topoisomerase II transiently breaks and closes double-stranded DNA . Topoisomerases are very susceptible to various stresses. Acidic pH or oxidative stress can convert topoisomerases to DNA-breaking nucleases, causing genomic instability and cell death. DNA-damaging topoisomerase targeting drugs (e.g., etoposide) also convert topoisomerases to nucleases, with the enzyme usually trapped as an intermediate that is covalently bound to the 5+ end of the cleaved DNA strand(s). Research studies have shown that this intermediate leads to genomic instability and cell death. Thus, agents that target topoisomerases are highly sought after cancer chemotherapeutic drugs . Ca2+-regulated phosphorylation of topoisomerase IIα at Ser1106 modulates the activity of this enzyme and its sensitivity to targeting drugs .

Product:

Mouse IgG1. Liquid in PBS containing 50% glycerol, 0.2% BSA and 0.01% sodium azide.

Molecular Weight:

~ 174 kDa

Swiss-Prot:

P11388

Purification&Purity:

The antibody was affinity-purified from mouse antiserum by affinity-chromatography using epitope-specific immunogen and the purity is > 95% (by SDS-PAGE).

Applications:

WB (1/500 - 1/1000), IHC (1/100 - 1/300), IF (1/100 - 1/500)

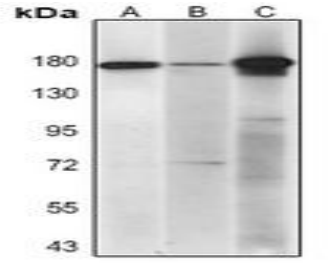
Storage&Stability:

Store at 4℃ short term. Aliquot and store at -20℃ long term. Avoid freeze-thaw cycles.

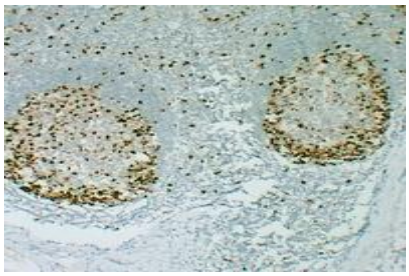
Specificity:

Recognizes endogenous levels of Topoisomerase 2 alpha protein.

DATA:



Western blot analysis of Topoisomerase 2 alpha expression in Hela (A), HepG2 (B), K562 (C) whole cell lysates.



Immunohistochemical analysis of Topoisomerase 2 alpha staining in human colon carcinoma formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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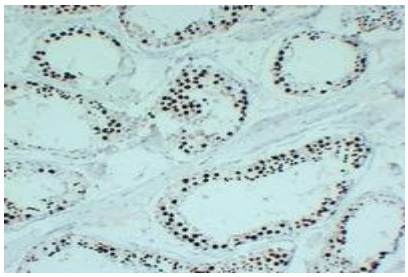
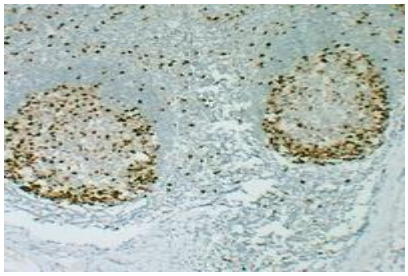


Immunohistochemical analysis of Topoisomerase 2 alpha staining in human testis formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunohistochemical analysis of Topoisomerase 2 alpha staining in human tonsil formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Note:

For research use only, not for use in diagnostic procedure.

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