



**Polyclonal Anti-DNA Topoisomerase II  $\alpha$ , TOP2A (Sepharose Bead Conjugate)**

**Catalogue No.** PA11227-S

**Lot No.** 08J01

**Ig type:** rabbit IgG

**Size:** 100 $\mu$ g/vial

**Specificity**

Human, rat, mouse. No cross reactivity with other proteins.

**Recommended application**

*(Immunoprecipitation(IP))*

**Immunogen**

A synthetic peptide mapping at the C-terminal of human TOP2A, different from the related mouse sequence by four amino acids.

**Purification**

Immunogen affinity purified.

**Formulation**

50% slurry in PBS pH 7.2 with 0.01mg NaN<sub>3</sub>a<sub>3</sub> preservative.

**Storage**

Store at 4°C for frequent use.

**Description:**

This Antagene antibody is immobilized via covalent binding of primary amino groups to N-hydroxysuccinimide (NHS)-activated sepharose beads. It is useful for immunoprecipitation assays

**BACKGROUND**

The human topoisomerase II enzyme is encoded by a single-copy gene which is mapped to 17q21-q22. The TOP2A gene spans approximately 30 kb and contains 35 exons. Furthermore, DNA topoisomerases are enzymes that control and alter the topologic states of DNA in both prokaryotes and eukaryotes. Topoisomerase II from eukaryotic cells catalyzes the relaxation of supercoiled DNA molecules, catenation, decatenation, knotting, and unknotting of circular DNA. It appears likely that the reaction catalyzed by topoisomerase II involves the crossing-over of 2 DNA segments. There are about 100,000 molecules of topoisomerase II per HeLa cell nucleus, constituting about 0.1% of the nuclear extract<sup>1</sup>. DNA topoisomerase II- $\alpha$  is associated with the pol II holoenzyme and is a required component of chromatin-dependent coactivation. Specific inhibitors of topoisomerase II blocked transcription on chromatin templates, but did not affect transcription on naked templates. Addition of purified topoisomerase II- $\alpha$  reconstituted chromatin-dependent activation activity in reactions with core pol II<sub>2</sub>.

**REFERENCE**

1. Miller, K. G.; Liu, L. F.; Englund, P. T. : A homogeneous type II DNA topoisomerase from HeLa cell nuclei. J. Biol. Chem. 256: 9334-9339, 1981.
2. Mondal, N.; Parvin, J. D. : DNA topoisomerase II- $\alpha$  is required for RNA polymerase II transcription on chromatin templates. Nature 413: 435-438, 2001.

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