DNA topoisomerases are nuclear enzymes that regulate the topological structure of DNA by transiently breaking and rejoining DNA strands. Although DNA topoisomerase I and DNA topoisomerase II relax both positive and negative supercoils, DNA topoisomerase III relaxes only negative supercoils. DNA topoisomerase III α exists as a long and a short isoform, which are produced by alternative splicing. DNA topoisomerase III α, which localizes to the nucleolus, is constitutively expressed and remains at high levels throughout the cell cycle in HL-60 cells. DNA topoisomerase III β exists as three isoforms, namely β1, β2, and β3, also produced by alternative splicing. DNA topoisomerase III β1 is expressed in testes, heart, and skeletal muscle, whereas β2 is expressed in thymus, kidney, and pancreas.

REFERENCES

CHROMOSOMAL LOCATION
Genetic locus: TOP3A (human) mapping to 17p11.2; Top3a (mouse) mapping to 11.

SOURCE
Topo IIIα (H-300) is a rabbit polyclonal antibody raised against amino acids 702-1001 mapping at the C-terminus of Topo IIIα of human origin.

PRODUCT
Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE
Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS
Topo IIIα (H-300) is recommended for detection of DNA topoisomerase IIIα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Topo IIIα siRNA (h): sc-36699 and Topo IIIα siRNA (m): sc-36700.

Molecular Weight of Topo IIIα: 110 kDa.
Positive Controls: HeLa nuclear extract: sc-2120 or K-562 nuclear extract: sc-2130.

RECOMMENDED SECONDARY REAGENTS
To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:200-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-24941.
2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE
For research use only, not for use in diagnostic procedures.