

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human TOP2B in Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human TOP2B aa 1187-1621 Accession # Q02880
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	0.2 µg/mL	See Below
Knockout Validated	TOP2B is specifically detected in HEK293 human embryonic kidney parental cell line but is not detectable in TOP2B knockout HEK293 cell line.	

DATA

Western Blot

Detection of Human TOP2B by Western Blot. Western blot shows lysates of K562 human chronic myelogenous leukemia cell line. Gels were loaded with 30 µg of whole cell lysate (WCL), 20 µg of cytoplasmic (Cyto), and 10 µg of nuclear extracts (Nuc). PVDF Membrane was probed with 0.2 µg/mL of Sheep Anti-Human TOP2B Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6348) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for TOP2B at approximately 185 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Knockout Validated

Western Blot Shows Human TOP2B Specificity by Using Knockout Cell Line. Western blot shows lysates of HEK293 human embryonic kidney parental cell line and TOP2B knockout HEK293 cell line (KO). PVDF membrane was probed with 0.2 µg/mL of Sheep Anti-Human TOP2B Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6348) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for TOP2B at approximately 245 kDa (as indicated) in the parental HEK293 cell line, but is not detectable in knockout HEK293 cell line. GAPDH (Catalog # AF5718) is shown as a loading control. This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

TOP2B (DNA Topoisomerase II β) is a 180-185 kDa member of the type IIA subfamily, topoisomerase family of molecules. It is ubiquitously expressed, and represents the larger of two known topoisomerases (the 2A/α-form being 170 kDa in size). TOP2A is essential for cell division, while TOP2B is active postmitotically. In an ATP-dependent manner, homodimeric TOP2B relieves torsional stress created in DNA during transcription, or as a consequence of replication. TOP2B first induces cleavage of double-stranded DNA, creating a space that allows for the physical repositioning of chromatin and a reduction in tension. This is followed by closure and ligation of the cleaved ends to recreate the original DNA structure. Human TOP2B is 1626 amino acids (aa) in length. It contains an ATPase domain (aa 101-201), an NES (aa 1034-1044), more than 30 Ser/Thr phosphorylation sites and a C-terminal DTHCT region (aa 1508-1611). There is one splice variant that shows a deletion of aa 24-28. Over aa 1187-1621, human TOP2B shares 91% aa identity with mouse TOP2B.