Technical Data Sheet

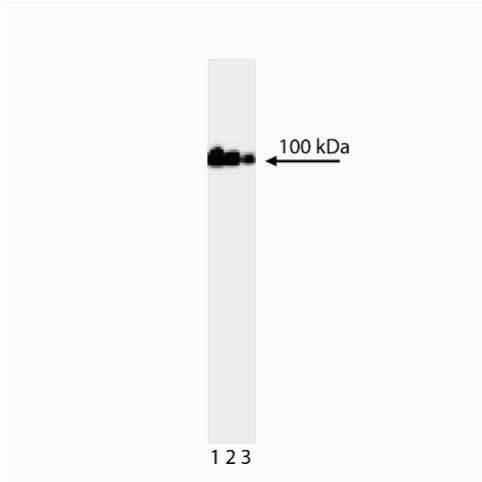
Purified Mouse Anti-Human DNA Topoisomerase I

Product Information

Material Number:	**556597**
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	C-21
Isotype:	Mouse IgM
Reactivity:	QC Testing: Human
Target MW:	100 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

DNA damage may be caused by various environmental factors, including radiation, mutagenic chemicals and copy errors which occur during DNA replication. The correction of DNA damage, so called "proofreading" functions of the cell, is achieved by numerous excision-repair enzymes. Topoisomerases alter the helical structure of DNA by introducing the transient breaking and rejoining of DNA strands, allowing other excision-repair enzymes to correct DNA errors. Topoisomerase I (Topo I) is a ubiquitous, soluble enzyme whose expression is fairly constant throughout the cell cycle. The related enzyme, Topo II, is a primarily insoluble structural protein whose expression varies between cell types and during the cell cycle. In addition to its role in DNA mismatch repair, Topo I displays kinase activity, phosphorylating serine-arginine rich (SR) splicing factors, and perhaps regulating gene expression by changing the splicing pattern of structural genes. DNA Topo I migrates at a molecular weight of 100 kDa in SDS-PAGE. Clone C-21 recognizes human DNA Topoisomerase I. The antibody is routinely tested by western blot analysis of A-431 cell lysates.



Western blot analysis of DNA Topoisomerase I. *Lysate from A-431 human epidermal carcinoma cell was probed with anti-human DNA Topoisomerase I (Cat. No. 556597) at 1.0 (lane 1), 0.2 (lane 2), and 0.04 µg/ml (lane 3). Clone C-21 identifies Topo I as an ~100 kDa band.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

Application Notes

Application

Western blot	Routinely Tested

Recommended Assay Procedure:

The C-21 antibody is recommended for western blot analysis (1-2 µg/ml). A-431 human epidermal carcinoma cells (ATCC CRL-1555) or K562 human leukemia cells (ATCC CCL-243) may be used as a positive control for this application.

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
611447	A431 Cell Lysate	500 µg	(none)

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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Sugimoto Y, Tsukahara S, Oh-hara T, Isoe T, Tsuruo T. Decreased expression of DNA topoisomerase I in camptothecin-resistant tumor cell lines as determined by a monoclonal antibody. *Cancer Res.* 1990; 50(21):6925-6930.(Biology)

Tazi J, Rossi F, Labourier E, Gallouzi I, Brunel C, Antoine E. DNA topoisomerase I: customs officer at the border between DNA and RNA worlds. *J Mol Med.* 1997; 75(11-12):786-800.(Biology)