Technical Data Sheet

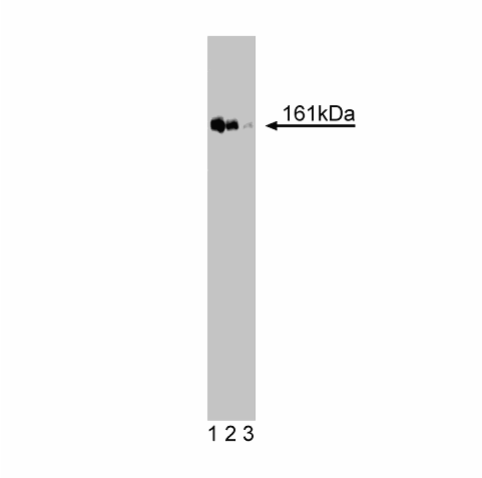
Purified Mouse Anti-Human TopBP1

Product Information

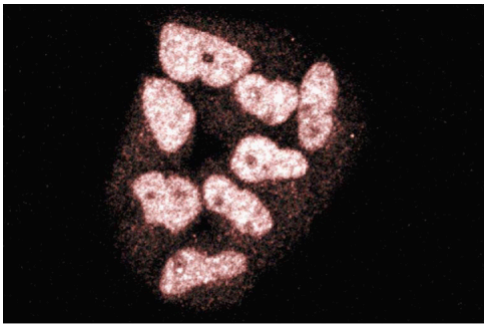
Material Number:	**611874**
Alternate Name:	Topoisomerase II Binding Protein 1
Size:	50 µg
Concentration:	250 µg/ml
Clone:	33/TopBP1
Immunogen:	Human TopBP1 aa. 204-416
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human
Target MW:	161 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Eukaryotic DNA topoisomerase II, a ubiquitous ATP-dependent type II topoisomerase, is an essential nuclear enzyme in DNA replication and transcription, chromatin segregation, and cell cycle progression. Topoisomerases transiently break a pair of complementary strands in double-stranded DNA to form a gate for the passage of duplex DNA. Two isoforms of DNA topoisomerase II have been identified: topo IIα and topo IIβ. These exhibit a high degree of homology, except for some divergence in the C-terminal region. Both contain multiple bipartite nuclear localization sequences (NLS) that mediate their subnuclear localization. DNA Topoisomerase II Binding Protein 1 (TopBP1) binds the C-terminal region of Topo IIβ via its N-terminal region. In addition, TopBP1 contains a putative ADP-ribosylation site, two N-terminal NLS domains, and 8 repeating BRCA1 C-terminal (BRCT) domains found in DNA repair proteins, such as BRCA1, XRCC1, and Rad4. The BRCT domains of TopBP1 have been shown to bind DNA breaks, DNA nicks, and DNA termini, but not circular intact DNA. Thus, TopBP1 may localize topoisomerases to sites of DNA damage.



Western blot analysis of TopBP1 on a Jurkat cell lysate (Human T-cell leukemia; ATCC TIB-152). *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of the mouse anti-human TopBP1 antibody.*



Immunofluorescence staining of HeLa cells (Human cervical epitheloid carcinoma; ATCC CCL-2.2).

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Yamane K, Katayama E, Tsuruo T. The BRCT regions of tumor suppressor BRCA1 and of XRCC1 show DNA end binding activity with a multimerizing feature. *Biochem Biophys Res Commun.* 2000; 279(2):678-684.(Biology)

Yamane K, Kawabata M, Tsuruo T. A DNA-topoisomerase-II-binding protein with eight repeating regions similar to DNA-repair enzymes and to a cell-cycle regulator. *Eur J Biochem.* 1997; 250(3):794-799.(Biology)

Yamane K, Tsuruo T. Conserved BRCT regions of TopBP1 and of the tumor suppressor BRCA1 bind strand breaks and termini of DNA. *Oncogene.* 1999; 18(37):5194-5203.(Biology)