

Technical Data Sheet

Purified Mouse Anti-Human Ku80**Product Information**

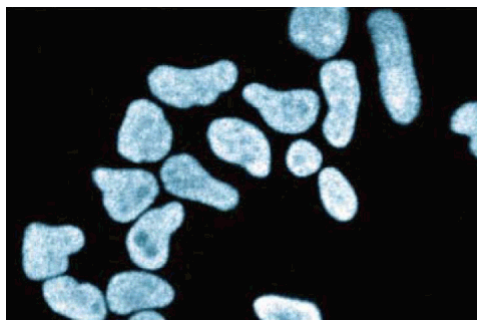
Material Number:	611360
Size:	50 µg
Concentration:	250 µg/ml
Clone:	7/Ku80
Immunogen:	Human Ku80 aa. 103-315
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human
Target MW:	80 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

DNA-dependent protein kinase (DNA-PK) is a trimeric enzyme that contains a catalytic subunit of 350 kDa (DNA-PKcs) and a heterodimeric regulatory subunit of 70 kDa (Ku70) and 86 kDa (Ku80). DNA-PKcs is inactive alone and depends on the regulatory subunit for subcellular localization and kinase activity. The DNA-PKcs/Ku70/Ku80 complex is involved in V(D)J recombination and DNA double-stranded break repair. Ku70 and Ku80 are abundant nuclear DNA-binding proteins. Besides functioning in a complex with DNA-PKcs, Ku proteins may act in multiple cellular processes including transcriptional regulation, ATPase and helicase activity, alteration in chromatin structure, cell cycle regulation, and maintenance of telomere length. In rat fibroblasts, Ku80 overexpression leads to hypermethylation and silencing of metallothionein gene expression. Ku70^{-/-} and Ku80^{-/-} cells are less resistant to anticancer drug-induced apoptosis, suggesting a role for Ku proteins in the prevention of apoptotic signaling. Thus, Ku70 and Ku80 may have multiple roles during DNA transcription, repair, and maintenance depending on the protein interactions that are involved.



Western blot analysis of Ku80 on an A431 cell lysate (Human epithelial carcinoma; ATCC CRL-1555). Lane 1: 1:500, lane 2: 1:1000, lane 3: 1:2000 dilution of the mouse anti-human Ku80 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/pharming/en/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611447	A431 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/pharming/en/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

Kim SH, Kim D, Han JS, et al. Ku autoantigen affects the susceptibility to anticancer drugs. *Cancer Res.* 1999; 59(16):4012-4017.(Biology)
Majumder S, Ghoshal K, Li Z, Jacob ST. Hypermethylation of metallothionein-I promoter and suppression of its induction in cell lines overexpressing the large subunit of Ku protein. *J Biol Chem.* 1999; 274(40):28584-28589.(Biology)
Smith GC, Jackson SP. The DNA-dependent protein kinase. *Genes Dev.* 1999; 13(8):916-934.(Biology)