Technical Data Sheet

Purified Mouse Anti-Human DNA-PKcs

Product Information

Material Number:	**610804**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	6/DNA-PKcs (p350)
Immunogen:	Human DNA-PKcs aa. 874-1024
Isotype:	Mouse IgG2a
Reactivity:	QC Testing: Human
Target MW:	465 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

DNA-PK is a trimeric enzyme that is composed of a catalytic subunit of ~ 465 kDa (DNA-PKcs) and a heterodimeric regulatory subunit of 70 kDa and 86 kDa. DNA-PKcs has been reported to be inactive alone and depends on the regulatory subunit for subcellular localization and kinase activity. DNA-PKcs belongs to the phosphatidylinositol (PI)3-kinase family and phosphorylates proteins, particularly transcription factors, but not lipids. It is most similar to the members of this family that regulate cell cycle control, DNA repair, and DNA damage. DNA-PKcs and Ku80 are involved in V(D)J recombination and DNA double-stranded break repair mechanisms. The immunodeficiency disorder SCID is the result of abnormal V(D)J recombination in T lymphocytes. In SCID mice, a portion of the DNA-PKcs C-terminal phosphatidylinositol 3-kinase domain is deleted due to a T to A nucleotide transversion that produces a premature stop codon and a truncated protein product. Thus, the mutated gene for DNA-PKcs may be the SCID gene.

Western blot analysis of DNA-PKcs on a HeLa cell lysate (Human cervical epitheloid carcinoma; ATCC CCL-2.2). Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of the mouse anti-human DNA-PKcs antibody.

Preparation and Storage

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

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Immunohistochemistry	Tested During Development
Immunoprecipitation	Not Recommended

Recommended Assay Procedure:

BD Biosciences

www.bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country-specific contact information, visit **www.bdbiosciences.com/how_to_order/**

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

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal
611449	HeLa Cell Lysate	500 µg	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
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. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Araki R, Fujimori A, Hamatani K. Nonsense mutation at Tyr-4046 in the DNA-dependent protein kinase catalytic subunit of severe combined immune deficiency mice. *Proc Natl Acad Sci U S A.* 1997; 94(6):2438-2443.(Biology)

Hartley KO, Gell D, Smith GC. DNA-dependent protein kinase catalytic subunit: a relative of phosphatidylinositol 3-kinase and the ataxia telangiectasia gene product. *Cell.* 1995; 82(5):849-856.(Biology)

Peterson SR, Stackhouse M, Waltman MJ, Chen F, Sato K, Chen DJ. Characterization of two DNA double-stranded break repair-deficient cell lines that express inactive DNA-dependent protein kinase catalytic subunits. *J Biol Chem.* 1997; 272(15):10227-10231.(Biology)

Saitoh H, Pizzi MD, Wang J. Perturbation of SUMOlation enzyme Ubc9 by distinct domain within nucleoporin RanBP2/Nup358. *J Biol Chem.* 2002; 277(7):4755-4763.(Biology)