Technical Data Sheet

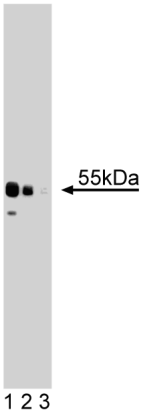
Purified Mouse Anti-Human XRCC4

Product Information

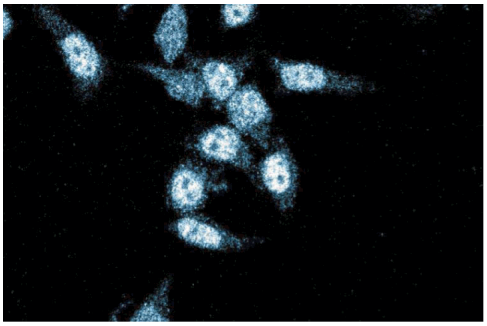
Material Number:	**611506**
Alternate Name:	X-Ray Cross Complementation group 4
Size:	50 µg
Concentration:	250 µg/ml
Clone:	4/XRCC4
Immunogen:	Human XRCC4 aa. 53-168
Isotype:	Mouse IgG2b
Reactivity:	QC Testing: Human
Target MW:	55 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

DNA double-strand breaks (DSB) are generated during intrinsic eukaryotic DNA recombination events such as assembly of antigen receptor genes and meiotic and mitotic recombination. DSB repair proteins are also required to repair breaks induced by extrinsic factors such as ionizing radiation and mutagenic chemicals. DNA-PKcs, Ku70/Ku80, DNA ligase IV, and X-Ray Cross Complementation group 4 (XRCC4) are DSB proteins involved in both V(D)J recombination and DNA double-stranded break repair. XRCC4 activates DNA ligase IV and cells deficient in XRCC4 inefficiently form coding joints and signal joints during V(D)J recombination. XRCC4 contains a C-terminal nuclear localization sequence (NLS) and multiple phosphorylation sites, binds DNA, and is an effective substrate for DNA-PK. Phosphorylation of XRCC4 has no effect on its interactions with DNA ligase IV or end-joining activity, but can inhibit its DNA binding activity. Mice deficient in XRCC4 exhibit defects in lymphogenesis and apoptotic death of postmitotic neurons during neurogenesis. Thus, XRCC4 is a ubiquitous protein involved in DNA end joining during DNA recombination and repair, which is critical for cell growth and survival.



Western blot analysis of XRCC4 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 XRCC4 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.

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/**

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
611449	HeLa 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

Gao Y, Sun Y, Frank KM, et al. A critical role for DNA end-joining proteins in both lymphogenesis and neurogenesis. *Cell.* 1998; 95(7):891-902.(Biology)

Li Z, Otevrel T, Gao Y, et al. The XRCC4 gene encodes a novel protein involved in DNA double-strand break repair and V(D)J recombination. *Cell.* 1995; 83(7):1079-1089.(Biology)

Modesti M, Hesse JE, Gellert M. DNA binding of Xrcc4 protein is associated with V(D)J recombination but not with stimulation of DNA ligase IV activity. *EMBO J.* 1999; 18(7):2008-2018.(Biology)