



Anti-XRCC4 (X-ray repair cross-complementing protein 4) Polyclonal Antibody

Category: Polyclonal Antibody

Catalog#: AB1F072

Species Reactivity: Human

Immunogen/Specificity:

Polyclonal antibody produced in rabbits immunizing with a synthetic peptide corresponding to C-residues of human XRCC4(X-ray repair cross-complementing protein 4)

Description: XRCC4 (X-ray repair cross-complementing protein 4) is involved in DNA non-homologous end joining (NHEJ) required for double-strand break repair and V(D)J recombination. XRCC4 binds to DNA and to DNA ligase IV (LIG4). The LIG4-XRCC4 complex is responsible for the NHEJ ligation step, and XRCC4 enhances the joining activity of LIG4. Binding of the LIG4-XRCC4 complex to DNA ends is dependent on the assembly of the DNA-dependent protein kinase complex DNA-PK to these DNA ends.

XRCC4 is a homodimer and homotetramer in solution. The homodimer associates with LIG4, and the LIG4-XRCC4 complex associates in a DNA-dependent manner with the DNA-PK complex formed by the Ku p70/p86 dimer (G22P1/G22P2) and PRKDC. XRCC4 seems to interact directly with PRKDC but not with the Ku p70/86 dimer. It interacts with XLF/Cernunnos. Interacts with APTX and APLF. Sumoylation at Lys-210 is required for nuclear localization and recombination efficiency. It has no effect on ubiquitination.

Reference:

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- Lee,K.J., et al., DNA Repair (Amst.) 3 (3), 267-276 (2004)
- Grawunder,U., et al, Nature 388 (6641), 492-495 (1997)
- Chen,L., et al, J. Biol. Chem. 275 (34), 26196-26205 (2000)
- Nick McElhinny, S.A., et al, Mol. Cell. Biol. 20 (9), 2996-3003 (2000)
- Hsu,H.L., et al, DNA Repair (Amst.) 1 (3), 225-235 (2002)
- Calsou,P., et al, J. Mol. Biol. 326 (1), 93-103 (2003)

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Contact: Antagene, Inc. | Tel: 1 (866) 964-2589 | Fax: 1 (888) 225-1868 | Email: Info@antageneinc.com