

XRCC4 Polyclonal Antibody

Catalog # AP73104

Product Information

Application	WB
Primary Accession	Q13426
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	38287

Additional Information

Gene ID	7518
Other Names	XRCC4; DNA repair protein XRCC4; X-ray repair cross-complementing protein 4
Dilution	WB~~Western Blot: 1/500 - 1/2000. ELISA: 1/20000. Not yet tested in other applications.
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20°C

Protein Information

Name	XRCC4 {ECO:0000303 PubMed:8548796, ECO:0000312 HGNC:HGNC:12831}
Function	<p>[DNA repair protein XRCC4]: DNA non-homologous end joining (NHEJ) core factor, required for double-strand break repair and V(D)J recombination (PubMed:10757784, PubMed:10854421, PubMed:12517771, PubMed:16412978, PubMed:17124166, PubMed:17290226, PubMed:22228831, PubMed:25597996, PubMed:25742519, PubMed:25934149, PubMed:26100018, PubMed:26774286, PubMed:8548796). Acts as a scaffold protein that regulates recruitment of other proteins to DNA double-strand breaks (DSBs) (PubMed:15385968, PubMed:20852255, PubMed:26774286, PubMed:27437582). Associates with NHEJ1/XLF to form alternating helical filaments that bridge DNA and act like a bandage, holding together the broken DNA until it is repaired (PubMed:21768349, PubMed:21775435, PubMed:22287571, PubMed:26100018, PubMed:27437582, PubMed:28500754). The XRCC4-NHEJ1/XLF subcomplex binds to the DNA fragments of a DSB in a highly diffusive manner and robustly bridges two independent DNA molecules, holding the broken DNA fragments in close proximity to one other (PubMed:27437582). The mobility of the bridges ensures that the ends remain</p>

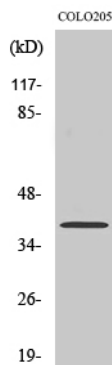
accessible for further processing by other repair factors (PubMed:[27437582](#)). Plays a key role in the NHEJ ligation step of the broken DNA during DSB repair via direct interaction with DNA ligase IV (LIG4): the LIG4-XRCC4 subcomplex reseals the DNA breaks after the gap filling is completed (PubMed:[10757784](#), PubMed:[10854421](#), PubMed:[12517771](#), PubMed:[17290226](#), PubMed:[19837014](#), PubMed:[9242410](#)). XRCC4 stabilizes LIG4, regulates its subcellular localization and enhances LIG4's joining activity (PubMed:[10757784](#), PubMed:[10854421](#), PubMed:[12517771](#), PubMed:[17290226](#), PubMed:[21982441](#), PubMed:[22228831](#), PubMed:[9242410](#)). Binding of the LIG4-XRCC4 subcomplex to DNA ends is dependent on the assembly of the DNA-dependent protein kinase complex DNA-PK to these DNA ends (PubMed:[10757784](#), PubMed:[10854421](#)). Promotes displacement of PNKP from processed strand break termini (PubMed:[20852255](#), PubMed:[28453785](#)).

Cellular Location	Nucleus. Chromosome. Note=Localizes to site of double-strand breaks.
Tissue Location	Widely expressed..

Background

Involved in DNA non-homologous end joining (NHEJ) required for double-strand break repair and V(D)J recombination. 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.

Images



Western Blot analysis of various cells using XRCC4 Polyclonal Antibody. Secondary antibody was diluted at 1:20000

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