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Anti-XRCC4 Picoband Antibody

Catalog # ABO12594

Specification

Anti-XRCC4 Picoband Antibody - Product Information

Application	**WB, IHC-P**
Primary Accession	Q13426
Host	**Rabbit**
Reactivity	**Human**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for DNA repair protein XRCC4(XRCC4) detection. Tested with WB, IHC-P in Human.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-XRCC4 Picoband Antibody - Additional Information

Gene ID 7518

Other Names
DNA repair protein XRCC4, X-ray repair cross-complementing protein 4, XRCC4

Calculated MW
38287 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat

Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization
Nucleus .

Tissue Specificity
Widely expressed. .

Protein Name
DNA repair protein XRCC4

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the N-terminus of human XRCC4 (49-75aa ESEISQEADDMAMEKGKYVGELRKALL), different from the related mouse sequence by four amino acids.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins.

Storage	**At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Anti-XRCC4 Picoband Antibody - Protein Information

Name XRCC4 {ECO:0000303|PubMed:8548796, ECO:0000312|HGNC:HGNC:12831}

Function
[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 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:<a href="http://www.uniprot.org/citations/12517771"

target="_blank">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..

Anti-XRCC4 Picoband Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-XRCC4 Picoband Antibody - Images

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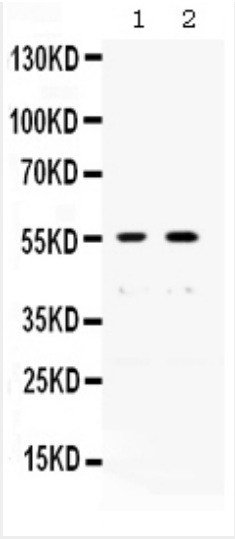
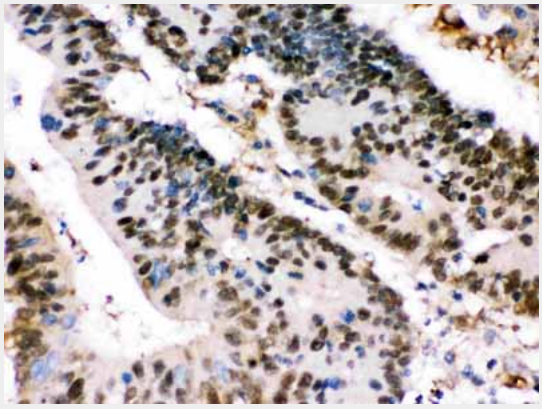


Western blot analysis of XRCC4 expression in SW620 whole cell lysates (lane 1) and A431 whole cell lysates (lane 1). XRCC4 at 55KD was detected using rabbit anti- XRCC4 Antigen Affinity purified polyclonal antibody (Catalog # ABO12594) at0.5 ??g/mL. The blot was developed using chemiluminescence (ECL) method .



XRCC4 was detected in paraffin-embedded sections of human intestinal cancer tissues using rabbit anti- XRCC4 Antigen Affinity purified polyclonal antibody (Catalog # ABO12594) at 1 Î¼g/mL. The immunohistochemical section was developed using SABC method .

Anti-XRCC4 Picoband Antibody - Background

DNA repair protein XRCC4, also known as X-ray repair cross-complementing protein 4 or XRCC4, is a protein that in humans is encoded by the XRCC4 gene. In addition to humans, the XRCC4 protein is also expressed in many other metazoans, fungi and in plants. The X-ray repair cross-complementing protein 4 is one of several coreproteins involved in the non-homologous end joining (NHEJ) pathway to repair DNA double strand breaks(DSBs). Since XRCC4 is the key protein that enables interaction of LigIV to damaged DNA and therefore ligation of the ends, mutations in the XRCC4 gene were found to cause embryonic lethality in mice and developmental inhibition and immunodeficiency in humans. Furthermore, certain mutations in the XRCC4 gene are associated with an increased risk of cancer.