XRCC4 monoclonal antibody

Catalog: MB65985 Host: Mouse Reactivity: Human

BackGround:

DNA double-stranded breaks (DSBs) are potentially hazardous lesions that can be induced by ionizing radiation (IR), radiomimetic chemicals, or DNA replication inhibitors. Cells recognize and repair DSBs via two distinct but partly overlapping signaling pathways, non-homologous end joining (NHEJ) and homologous recombination (HR). DNA repair via the HR pathway is restricted to S and G2 phases of the cell cycle, while NHEJ can occur during any phase. NHEJ machinery is also utilized in V(D)J recombination, a process that generates diversity in immunoglobulin and T cell receptor genes. Defects in both pathways have been associated with human disease, including cancer.

DNA repair through the NHEJ pathway involves a core group of proteins that includes the Ku heterodimer (Ku70/Ku80), DNA-PKcs, DNA ligase IV, XRCC4, XLF, and PAXX (PAralog of XRCC4 and XLF, also known as C9orf142 or XLS). XRCC4 interacts with XLF and promotes the ligation of DNA strands by DNA ligase IV.

Mutations and polymorphisms in XRCC4 have been linked to human disease, including microcephaly, dwarfism, and cancer susceptibility. Knockdown of XRCC4 expression in hepatocellular carcinoma (HCC) cells and triple-negative breast cancer cells increases sensitivity to doxorubicin and ionizing radiation, respectively.

Product:

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.

Molecular Weight:

~ 38 kDa

Swiss-Prot:

Q13426

Purification&Purity:

The antibody was affinity-purified from mouse antiserum by affinity-chromatography using epitope-specific immunogen and the purity is > 95% (by SDS-PAGE).

Applications:

WB (1/1000 - 1/2000), IHC (1/200 - 1/500), IP (1/100 - 1/200)

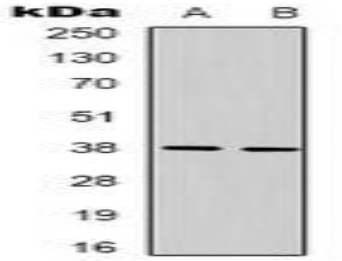
Storage&Stability:

Store at 4℃ short term. Aliquot and store at -20℃ long term. Avoid freeze-thaw cycles.

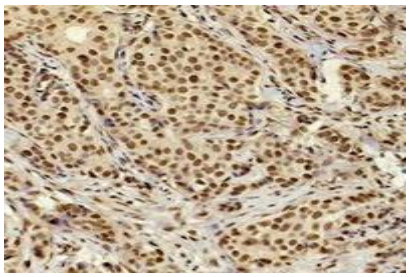
Specificity:

Recognizes endogenous levels of XRCC4 protein.

DATA:



Western blot analysis of XRCC4 expression in Hela (A), 293T (B) whole cell lysates.



Immunohistochemical analysis of XRCC4 staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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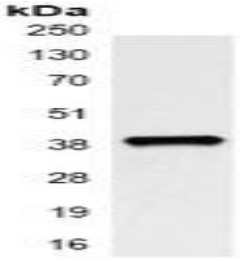

Immunoprecipitation of XRCC4 from 0.5mg Hela whole cell extract lysate, using Anti-XRCC4 Antibody.

Note:

For research use only, not for use in diagnostic procedure.

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