SunLong Biotech Co.,LTD
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Mouse Anti-XRCC4 antibody

SLM-33092M

Product Name	XRCC4
Chinese Name	DNA 修复基因 XRCC4 单克隆抗体
Alias	X-Ray Repair Cross Complementing 4; X-Ray Repair Complementing Defective Repair In Chinese Hamster Cells 4; XRCC4_HUMAN; DNA Repair Protein XRCC4; X-Ray Repair, Complementing Defective, Repair In Chinese Hamster; X-Ray Repair Cross-Complementing Protein 4; SSMED;
Research Area	Tumour Cell biology Chromatin and nuclear signals
Immunogen Species	Mouse
Clonality	Monoclonal
Clone NO.	7D11
React Species	Human
Applications	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	38kDa
Cellular localization	The nucleus
Form	Liquid
Concentration	1mg/ml
immunogen	Recombinant human XRCC4 protein
Lsotype	IgG
Purification	affinity purified by Protein G
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4℃. Store at -20 ℃ for one year. Avoid repeated freeze/thaw cycles.
Attention	This product as supplied is intended for research use only, not for use in human, therapeutic

or diagnostic applications.

PubMed PubMed

The protein encoded by this gene functions together with DNA ligase IV and the DNA-dependent protein kinase in the repair of DNA double-strand breaks. This protein plays a role in both non-homologous end joining and the completion of V(D)J recombination. Mutations in this gene can cause short stature, microcephaly, and endocrine dysfunction (SSMED). Alternative splicing generates several transcript variants. [provided by RefSeq, Dec 2015]

Product Detail

Function:
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.

Subunit:
Homodimer and homotetramer in solution. The homodimer associates with LIG4. The LIG4-XRCC4 complex associates in a DNA-dependent manner with the DNA-PK complex composed of PRKDC, XRCC6/Ku70 and XRCC5/Ku86 to form the core non-homologous end joining (NHEJ) complex. Additional components of the NHEJ complex include NHEJ1/XLF and C9orf142/PAXX. Interacts directly with PRKDC but not with the XRCC6/Ku70 and XRCC5/Ku86 dimer. Interacts with APTX and APLF.

Subcellular Location:
Nucleus

Tissue Specificity:
Widely expressed.

Post-translational modifications:
Phosphorylated by PRKDC. The phosphorylation seems not to be necessary for binding to DNA.
Phosphorylation by CK2 promotes interaction with APTX.
Monoubiquitinated.
Sumoylation at Lys-210 is required for nuclear localization and recombination efficiency. Has no effect on ubiquitination.

DISEASE:
The disease is caused by mutations affecting the gene represented in this entry.
Disease descriptionA disease characterized by short stature and microcephaly apparent at

birth, progressive post-natal growth failure, and endocrine dysfunction. In affected adults endocrine features include hypergonadotropic hypogonadism, multinodular goiter, and diabetes mellitus. Variable features observed in some patients are progressive ataxia, and lymphopenia or borderline leukopenia.

Similarity:
Belongs to the XRCC4 family.

SWISS:
Q13426

Gene ID:
7518

Database links:

Entrez Gene: 7518 Human

Omim: 194363 Human

SwissProt: Q13426 Human

Unigene: 567359 Human

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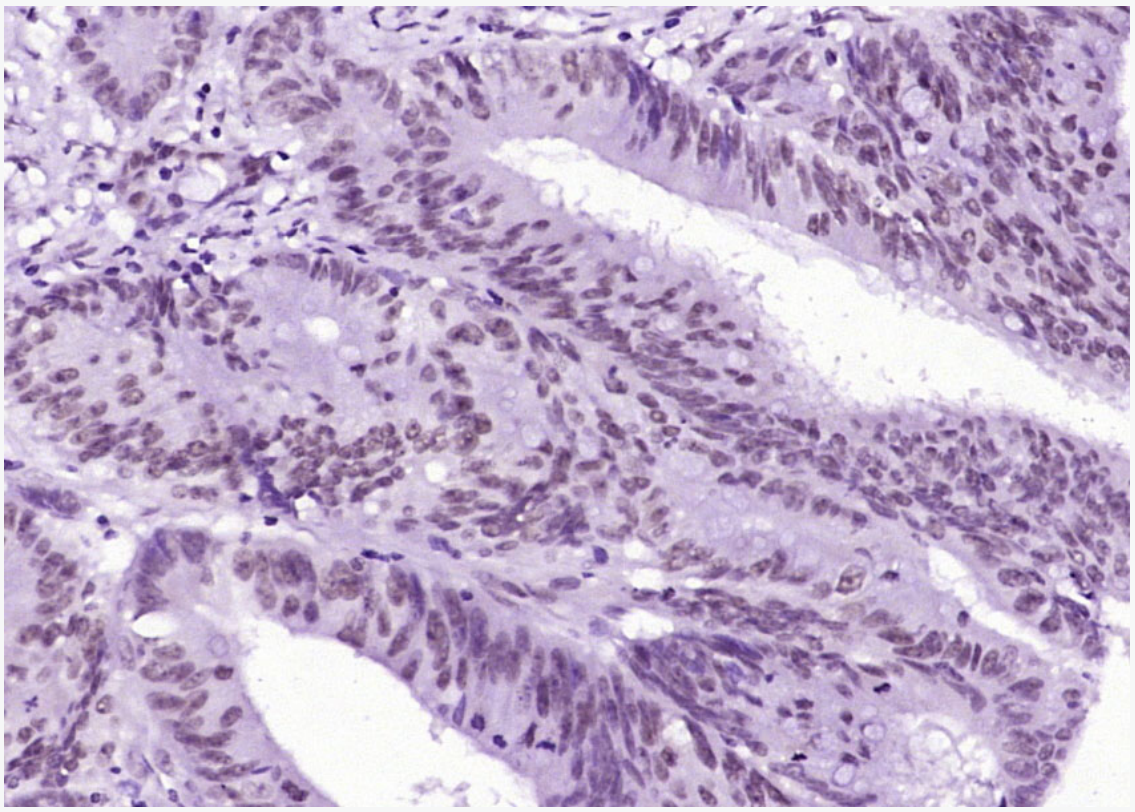
Product Picture



Paraformaldehyde-fixed, paraffin embedded (Human colon carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (XRCC4) Monoclonal Antibody, Unconjugated (ascites of SLM-33092M 7D11) at 1:2000 overnight at 4°C, followed by a conjugated secondary (sp-0024) for 20 minutes and DAB staining.

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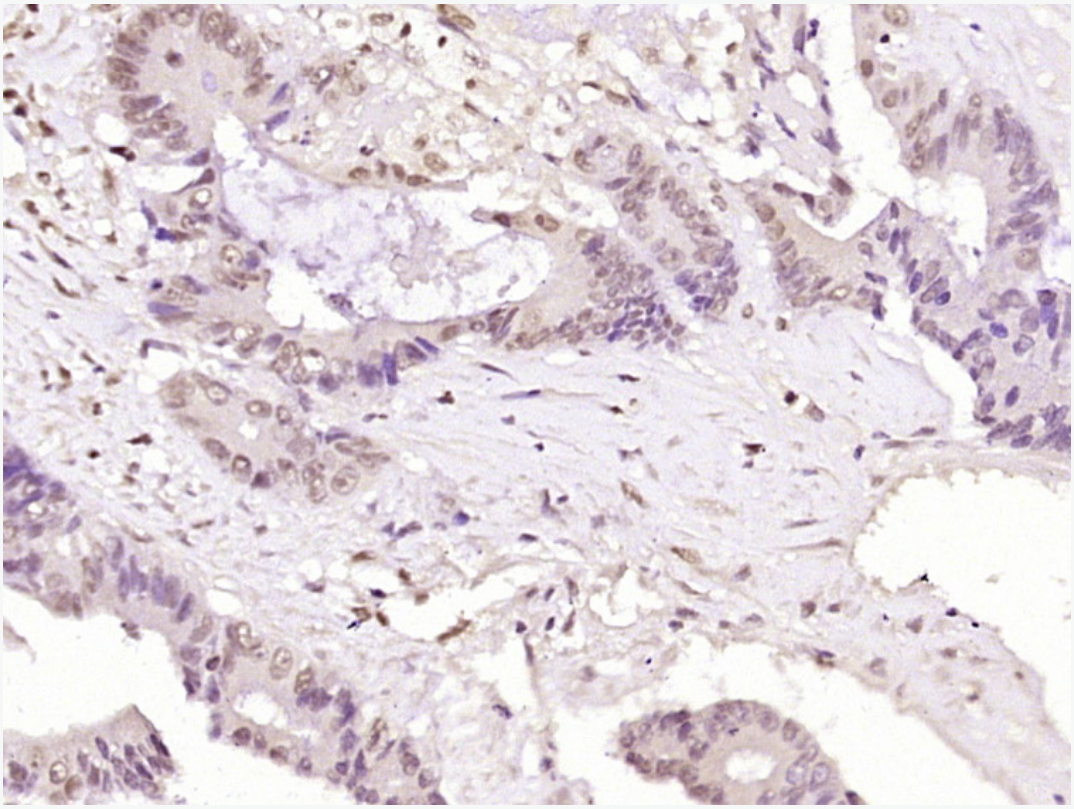

Paraformaldehyde-fixed, paraffin embedded (Human colon cancer); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (XRCC4) Monoclonal Antibody, Unconjugated (SLM-33092M) at 1:800 overnight at 4°C, followed by operating according to SP Kit(Mouse) (sp-0024) instructions and DAB staining.