

Product datasheet for RC218029

XRCC4 (NM_022550) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	XRCC4 (NM_022550) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	XRCC4
Synonyms:	SSMED
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC218029 representing NM_022550 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGAGAGAAAAAATAGCAGAATCCACCTGTTTCTGAACCCAGTATAACTCATTTTCTACAAGTATCTT
GGGAGAAAACACTGGAATCTGGTTTTGTTATTACACTTACTGATGGTCATTCAGCATGGACTGGGACAGT
TTCTGAATCAGAGATTTCCCAAGAAGCTGATGACATGGCAATGGAAAAAGGAAATATGTTGGTGAAGT
AGAAAAGCATTGTTGTCAGGAGCAGGACCAGCTGATGTATACACGTTAATTTTTCTAAAGAGTCTTGTT
ATTTCTTCTTTGAGAAAAACCTGAAAGATGTCTCATTGACTTGGTTCCTTCAACCTAGAGAAAGTTGA
AAACCCAGCTGAAGTCATTAGAGAACTTATTTGTTATTGCTTGGACACCATTGCAGAAAAATCAAGCCAAA
AATGAGCACCTGCAGAAAGAAAATGAAAGGCTTCTGAGAGATTGGAATGATGTTCAAGGACGATTTGAAA
AATGTGTGAGTGCTAAGGAAGCTTTGGAGACTGATCTTTATAAGCGGTTTATTCTGGTGTGAAATGAGAA
GAAAACAAAAATCAGAAGTTTGATAATAAATTATTAATGCAGCTCAAGAACGAGAAAAGGACATCAAA
CAAGAAGGGGAACTGCAATCTGTTCTGAAATGACTGCTGACCGAGATCCAGTCTATGATGAGAGTACTG
ATGAGGAAAGTAAAACCAACTGATCTCTCTGGGTTGGCTTCAAGTAAAGATGATCCAT
TATTTCAAGTCTTGATGTCAGTATTTGACCAAGTAGAAAAAGGAGACAGCGAATGCAAGAAAATCTT
GGGACAGAACCTAAAATGGCTCCTCAGGAGAATCAGCTTCAAGAAAAGGAAAATCTAGGCCTGATTCTT
CACTACCTGAGACGTCTAAAAAGGAGCACATCTCAGCTGAAAACATGTCTTTAGAAAATCTGAGAAAACAG
CAGCCCAGAAGACCTCTTTGATGAGATT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC218029 representing NM_022550
Red=Cloning site Green=Tags(s)

MERKISRHLVSEPSITHFLQVSWEKTLESFVITLTDGHSAWTGTVSESEISQEADDMAMEKGKYVGEL
 RKALLSGAGPADVYTFNFSEKSCYFFFEKNLKDVSFRLGFSFNLEKVENPAEVIRELICCYCLDTIAENQAK
 NEHLQKENERLLRDWNDVQGRFEKCVSAKEALETDLYKRFILVLNEKTKIRSLHNKLLNAAQEREKDIK
 QEGETAICSEMTADRDVYDESTDDEESENQTDLSGLASAAVSKDDSIISLSDVTDIAPSRKRRQRMQRNL
 GTEPKMAPQENQLQEKENSRPDSSLPETSKEHISAENMSLETLRNSSPEDLFDEI

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6118_c05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_022550

ORF Size: 1008 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_022550.3](#)

RefSeq Size: 1707 bp

RefSeq ORF: 1005 bp

Locus ID: 7518

UniProt ID: [Q13426](#)

Cytogenetics: 5q14.2

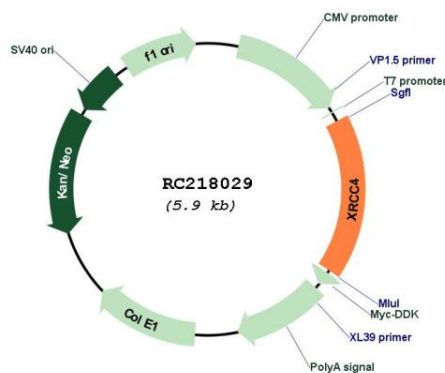
Protein Families: Druggable Genome

Protein Pathways: Non-homologous end-joining

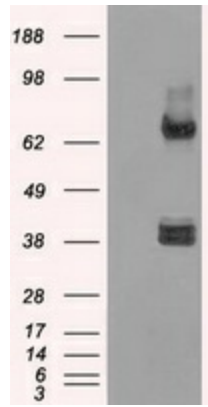
MW: 37.9 kDa

Gene Summary: 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). Alternate transcript variants such as NM_022406 are unlikely to be expressed in some individuals due to a polymorphism (rs1805377) in the last splice acceptor site. [provided by RefSeq, Oct 2019]

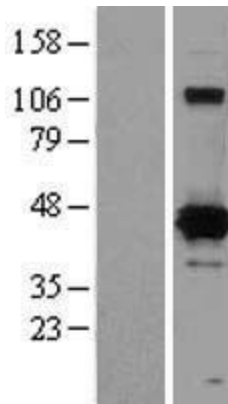
Product images:



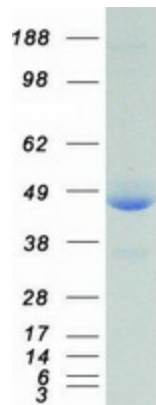
Circular map for RC218029



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY XRCC4 (Cat# RC218029, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-XRCC4 (Cat# [TA500650]). Positive lysates [LY402930] (100ug) and [LC402930] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY402930]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC218029 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified XRCC4 protein (Cat# [TP318029]). The protein was produced from HEK293T cells transfected with XRCC4 cDNA clone (Cat# RC218029) using MegaTran 2.0 (Cat# [TT210002]).