Datasheet for ABIN7545171

XRCC4 Protein (AA 1-336) (His tag)

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Overview

Quantity:	1 mg
Target:	XRCC4
Protein Characteristics:	AA 1-336
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This XRCC4 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Purpose:	Custom-made recombinat XRCC4 Protein expressed in mammalien cells.
Sequence:	MERKISRIHL VSEPSITHFL QVSWEKTLES GFVITLTDGH SAWTGTVSES EISQEADDMA MEKGKYVGEL RKALLSGAGP ADVYTFNFSK ESCYFFFEKN LKDVSFRLGS FNLEKVENPA EVIRELICYC LDTIAENQAK NEHLQKENER LLRDWNDVQG RFEKCVSAKE ALETDLYKRF ILVLNEKKTK IRSLHNKLLN AAQEREKDIK QEGETAICSE MTADRDPVYD ESTDEESENQ TDLSGLASAA VSKDDSIISS LDVTDIAPSR KRRQRMQRNL GTEPKMAPQE NQLQEKENSR PDSSLPETSK KEHISAENMS LETLRNSSPE DLFDEI **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**
Characteristics:	Key Benefits:

Product Details

	• Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalien cells and purified in one-step affinity chromatography • The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. If you are not interested in a full length protein, please contact us for individual protein fragments. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.
Purity:	> 90 % as determined by Bis-Tris Page, Western Blot
Grade:	custom-made

Target Details

Target:	XRCC4
Alternative Name:	XRCC4 (XRCC4 Products)
Background:	DNA repair protein XRCC4 (hXRCC4) (X-ray repair cross-complementing protein 4) [Cleaved into: Protein XRCC4, C-terminus (XRCC4/C)],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:17124166, PubMed:16412978, PubMed:8548796, PubMed:25742519, PubMed:12517771, PubMed:17290226, PubMed:22228831, PubMed:25597996, PubMed:25934149, PubMed:26100018, PubMed:26774286). 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:26100018, PubMed:27437582, PubMed:28500754, PubMed:21775435, PubMed:22287571, PubMed:21768349). 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:9242410, PubMed:10757784, PubMed:10854421, PubMed:12517771, PubMed:17290226, PubMed:19837014). XRCC4 stabilizes LIG4, regulates its subcellular localization and enhances LIG4's joining activity (PubMed:9242410, PubMed:10757784, PubMed:10854421, PubMed:12517771, PubMed:17290226, PubMed:21982441, PubMed:22228831). 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). {ECO:0000269|PubMed:10757784, ECO:0000269|PubMed:10854421, ECO:0000269|PubMed:12517771, ECO:0000269|PubMed:15385968, ECO:0000269|PubMed:16412978, ECO:0000269|PubMed:17124166, ECO:0000269|PubMed:17290226, ECO:0000269|PubMed:19837014, ECO:0000269|PubMed:20852255, ECO:0000269|PubMed:21768349, ECO:0000269|PubMed:21775435, ECO:0000269|PubMed:21982441, ECO:0000269|PubMed:22228831, ECO:0000269|PubMed:22287571, ECO:0000269|PubMed:25597996, ECO:0000269|PubMed:25742519, ECO:0000269|PubMed:25934149, ECO:0000269|PubMed:26100018, ECO:0000269|PubMed:26774286, ECO:0000269|PubMed:27437582, ECO:0000269|PubMed:28453785, ECO:0000269|PubMed:28500754, ECO:0000269|PubMed:8548796, ECO:0000269|PubMed:9242410}., FUNCTION: [Protein XRCC4, C-terminus]: Acts as an activator of the phospholipid scramblase activity of XKR4 (PubMed:33725486). This form, which is generated upon caspase-3 (CASP3) cleavage, translocates into the cytoplasm and interacts with XKR4, thereby promoting phosphatidylserine scramblase activity of XKR4 and leading to phosphatidylserine exposure on apoptotic cell surface (PubMed:33725486). {ECO:0000269|PubMed:33725486}.
Molecular Weight:	38.3 kDa
UniProt:	Q13426
Pathways:	DNA Damage Repair, Production of Molecular Mediator of Immune Response

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months

