Datasheet for ABIN7548329

C3orf37 Protein (AA 1-354) (His tag)

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Overview

Quantity:	1 mg
Target:	C3orf37 (C3ORF37)
Protein Characteristics:	AA 1-354
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This C3orf37 protein is labelled with His tag.

Product Details

Purpose:	Custom-made recombinant HMCES Protein expressed in mammalian cells.
Sequence:	MCGRTSCHLP RDVLTRACAY QDRRGQQRLP EWRDPDKYCP SYNKSPQSNS PVLLSRLHFE KDADSSERII APMRWGLVPS WFKESDPSKL QFNTTNCRSD TVMEKRSFKV PLGKGRRCVV LADGFYEWQR CQGTNQRQPY FIYFPQIKTE KSGSIGAADS PENWEKVWDN WRLLTMAGIF DCWEPPEGGD VLYSYTIITV DSCKGLSDIH HRMPAILDGE EAVSKWLDFG EVSTQEALKL IHPTENITFH AVSSVVNNSR NNTPECLAPV DLVVKKELRA SGSSQRMLQW LATKSPKKED SKTPQKEESD VPQWSSQFLQ KSPLPTKRGT AGLLEQWLKR EKEEEPVAKR PYSQ **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.**
Specificity:	If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer.
Characteristics:	Key Benefits:

Product Details

	• Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalian 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, anti-tag ELISA, Western Blot and analytical SEC (HPLC)
Grade:	custom-made

Target Details

Target:	C3orf37 (C3ORF37)
Alternative Name:	HMCES (C3ORF37 Products)
Background:	Abasic site processing protein HMCES (EC 4.-.-.-) (Embryonic stem cell-specific 5-hydroxymethylcytosine-binding protein) (ES cell-specific 5hmC-binding protein) (Peptidase HMCES) (EC 3.4.-.-) (SRAP domain-containing protein 1),FUNCTION: Sensor of abasic sites in single-stranded DNA (ssDNA) required to preserve genome integrity by promoting error-free repair of abasic sites (PubMed:30554877, PubMed:32492421, PubMed:32307824, PubMed:31235913, PubMed:31235915). Acts as an enzyme that recognizes and binds abasic sites in ssDNA at replication forks and chemically modifies the lesion by forming a covalent cross-link with DNA: forms a stable thiazolidine linkage between a ring-opened abasic site and the alpha-amino and sulfhydryl substituents of its N-terminal catalytic cysteine residue (PubMed:30554877, PubMed:31235913). Promotes error-free repair by protecting abasic sites from translesion synthesis (TLS) polymerases and endonucleases that are error-prone and would generate mutations and double-strand breaks (PubMed:30554877). The HMCES DNA-protein cross-link is then either reversed or degraded (PubMed:30554877, PubMed:37950866, PubMed:37519246, PubMed:36608669). HMCES is able to catalyze the reversal of its

Target Details

	thiazolidine cross-link and cycle between a cross-link and a non-cross-linked state depending on DNA context: mediates self-reversal of the thiazolidine cross-link in double stranded DNA, allowing APEX1 to initiate downstream repair of abasic sites (PubMed:37950866, PubMed:37519246). The HMCES DNA-protein cross-link can also be degraded by the SPRTN metalloprotease following unfolding by the BRIP1/FANCJ helicase (PubMed:36608669). Has preference for ssDNA, but can also accommodate double-stranded DNA with 3' or 5' overhang (dsDNA), and dsDNA-ssDNA 3' junction (PubMed:31235915, PubMed:31806351). Plays a protective role during somatic hypermutation of immunoglobulin genes in B-cells: acts via its ability to form covalent cross-links with abasic sites, thereby limiting the accumulation of deletions in somatic hypermutation target regions (PubMed:35450882). Also involved in class switch recombination (CSR) in B-cells independently of the formation of a DNA-protein cross-link: acts by binding and protecting ssDNA overhangs to promote DNA double-strand break repair through the microhomology-mediated alternative-end-joining (Alt-EJ) pathway (By similarity). Acts as a protease: mediates autocatalytic processing of its N-terminal methionine in order to expose the catalytic cysteine (By similarity). {ECO:0000250|UniProtKB:Q8R1M0, ECO:0000269|PubMed:30554877, ECO:0000269|PubMed:31235913, ECO:0000269|PubMed:31235915, ECO:0000269|PubMed:31806351, ECO:0000269|PubMed:32307824, ECO:0000269|PubMed:32492421, ECO:0000269|PubMed:35450882, ECO:0000269|PubMed:36608669, ECO:0000269|PubMed:37519246, ECO:0000269|PubMed:37950866}.
Molecular Weight:	40.6 kDa
UniProt:	Q96FZ2

Application Details

Application Notes:	We expect the protein to work for functional studies. 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

Handling

Storage Comment:	Store at -80°C.
Expiry Date:	12 months