

Product datasheet for RC208710

C3orf37 (HMCES) (NM_001006109) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	C3orf37 (HMCES) (NM_001006109) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	C3orf37
Synonyms:	C3orf37; DC12; SRAPD1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC208710 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGTGTGGGCGAACATCCTGTCACCTACCTAGAGATGTTCTCACGAGAGCTTGGCCTACCAGGATCGGC
GGGGCCAGCAGCGGCTCCCGAGTGGAGGGACCCTGATAAGTACTGCCCTCTTACAACAAGAGTCTCTCA
ATCCAACAGCCCAGTCTTCTGTCTCGACTGCACCTTTGAGAAGGATGCAGACTCATCTGAGCGTATCATT
GCTCCCATGCGCTGGGGCTTGGTCCCTTCTGGTCAAAGAAAGTGATCCTTCCAAGCTGCAGTTCAATA
CTACCAACTGTCGTAGTATACCGTAATGGAGAAACGGTCATTTAAGGTGCCTCTGGGAAAGGGAAGACG
CTGTGTGCTTTTAGCAGATGGATTCTATGAGTGGCAGCGATGTCAGGGAACAAACCAGAGGCAGCCATAC
TTCATCTATTTTCTCAAATCAAGACAGAGAAGTCAGGTAGCATTGGTGTGTCAGATAGTCTGAGAACT
GGGAGAAAGTCTGGGACAACCTGGAGGCTGCTGACAATGGCCGGGATCTTTGACTGCTGGGAGCCCCAGA
GGGAGGAGATGTCCTGTATTCTATACCATCATCACAGTGGATTCTGCAAAGGCTTGAGTGACATCCAC
CACAGGATGCCTGCCATATTAGATGGAGAGGAGGCAGTTTCTAAATGGCTTGACTTTGGTGAAGTCTCAA
CTCAGGAAGCTCTGAAATTAATCCACCAACAGAGAACATCACCTTCCATGCAGTCTCTTCTGTGGTGAA
CAACTCGCGAAACAACACTCCTGAGTGTCTGGCTCCTGTCGACTTGGTGGTCAAAAAGGAGCTCAGGGCA
AGTGGCAGTAGCCAGAGGATGTTGCAGTGGTTGGCCACAAAGTCACCCAAAAGGAGACTCAAAAACAC
CTCAAAAAGGAAGAGTCAAGATGTTCCCGAGTGGTCCAGTCAAGTTCCTGCAAGAAGAGTCCACTCCCCACAA
GAGAGGCACTGCAGGACTCCTAGAGCAATGGCTGAAGCGGGAGAAGGAGGAGAACCTGTGGCCAAGCGT
CCTTACAGCCAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC208710 protein sequence
Red=Cloning site Green=Tags(s)

MCGRTSCHLPRDVLTRACAYQDRRGQQLPEWRDPDKYCPSYNKSPQSNPVLRLHF EK DADSSERII
 APMRWGLVPSWFKESDP SKLQFNNTNCRSDTVMEKRSFKVPLGKGRRCVVLADGFYEWQRCQGTNQRQPY
 FIYFPQIKTEKSGSIGAADSPENWEKVWDNRLLTMAGIFDCWEPPEGGDVLYSYTIITVDSCKGLSDIH
 HRMPAILDGEEAVSKWLDGFEVSTQEALKLIHPTENITFHAVSSVVNNSRNNTPECLAPVDLVVKKELRA
 SGSSQRMLQWLATKSPKKEDSKTPQKEESDVPQWSSQFLQK SPLPTKRGTAGLLEQWLKREKEE EEPVAKR
 PYSQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6366_h10.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



* The last codon before the Stop codon of the ORF

ACCN: NM_001006109

ORF Size: 1062 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_001006109.1](#), [NP_001006109.1](#)

RefSeq Size: 1809 bp

RefSeq ORF: 1065 bp

Locus ID: 56941

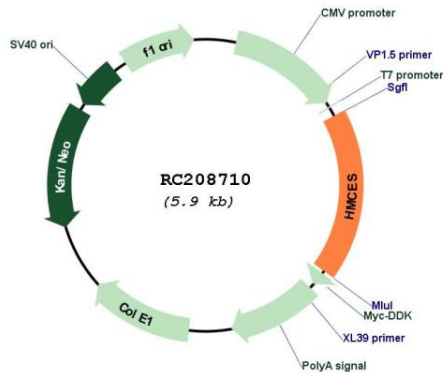
UniProt ID: [Q96FZ2](#)

Cytogenetics: 3q21.3

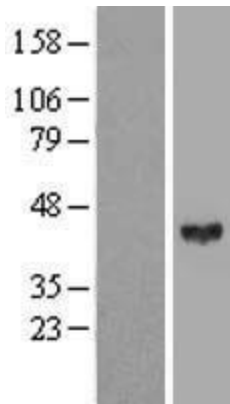
MW: 40.6 kDa

Gene Summary: Sensor of abasic sites in single-stranded DNA (ssDNA) required to preserve genome integrity by promoting error-free repair of abasic sites (PubMed:30554877). 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 (PubMed:30554877). The HMCES DNA-protein cross-link is then degraded by the proteasome (PubMed:30554877). Promotes error-free repair of abasic sites by acting as a 'suicide' enzyme that is degraded, thereby protecting abasic sites from translesion synthesis (TLS) polymerases and endonucleases that are error-prone and would generate mutations and double-strand breaks (PubMed:30554877). Acts as a protease: mediates autocatalytic processing of its N-terminal methionine in order to expose the catalytic cysteine (By similarity). Specifically binds 5-hydroxymethylcytosine (5hmC)-containing DNA in stem cells (By similarity). May act as an endonuclease that specifically cleaves 5hmC-containing DNA; additional experiments are however required to confirm this activity in vivo (By similarity).[UniProtKB/Swiss-Prot Function]

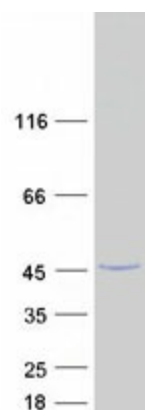
Product images:



Circular map for RC208710



Western blot validation of overexpression lysate (Cat# [LY423676]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC208710 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified HMCES protein (Cat# [TP308710]). The protein was produced from HEK293T cells transfected with HMCES cDNA clone (Cat# RC208710) using MegaTran 2.0 (Cat# [TT210002]).