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Product datasheet for RC215567

C3orf37 (HMCES) (NM_020187) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	C3orf37 (HMCES) (NM_020187) 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:

>RC215567 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGTGTGGGCGAACATCCTGTCACTTACCTAGAGATGTTCTCACGAGAGCTTGCGCCTACCAGGATCGGC
GGGGCCAGCAGCGGCTCCCGGAGTGGAGGGACCCTGATAAGTACTGCCCCTCTTACAACAAGAGTCCTCA
ATCCAACAGCCCAGTGCTTCTGTCTCGACTGCACTTTGAGAAGGATGCAGACTCATCTGAGCGTATCATT
GCTCCCATGCGCTGGGGCTTGGTCCCTTCTTGGTTCAAAGAAAGTGATCCTTCCAAGCTGCAGTTCAATA
CTACCAACTGTCGTAGTGATACCGTAATGGAGAAACGGTCATTTAAGGTGCCTCTGGGAAAGGGAAGACG
CTGTGTCGTTTTAGCAGATGGATTCTATGAGTGGCAGCGATGTCAGGGAACAAACCAGAGGCAGCCATAC
TTCATCTATTTTCCTCAAATCAAGACAGAGAAGTCAGGTAGCATTGGTGCTGCAGATAGTCCTGAGAACT
GGGAGAAAGTCTGGGACAACTGGAGGCTGCTGACAATGGCCGGGATCTTTGACTGCTGGGAGCCCCCAGA
GGGAGGAGATGTCCTGTATTCCTATACCATCATCACAGTGGATTCCTGCAAAGGCTTGAGTGACATCCAC
CACAGGATGCCTGCCATATTAGATGGAGAGGAGGCAGTTTCTAAATGGCTTGACTTTGGTGAAGTCTCAA
CTCAGGAAGCTCTGAAATTAATCCACCCAACAGAGAACATCACCTTCCATGCAGTCTCTTCTGTGGTGAA
CAACTCGCGAAACAACACTCCTGAGTGTCTGGCTCCTGTCGACTTGGTGGTCAAAAAGGAGCTCAGGGCA
AGTGGCAGTAGCCAGAGGATGTTGCAGTGGTTGGCCACAAAGTCACCCAAAAAGGAAGACTCAAAAACAC
CTCAAAAGGAAGAGTCAGATGTTCCCCAGTGGTCCAGTCAGTTCCTGCAGAAGAGTCCACTCCCCACCAA
GAGAGGCACTGCAGGACTCCTAGAGCAATGGCTGAAGCGGGAGAAGGAGGAGGAACCTGTGGCCAAGCGT
CCTTACAGCCAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

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Protein Sequence:

>RC215567 protein sequence
Red=Cloning site Green=Tags(s)

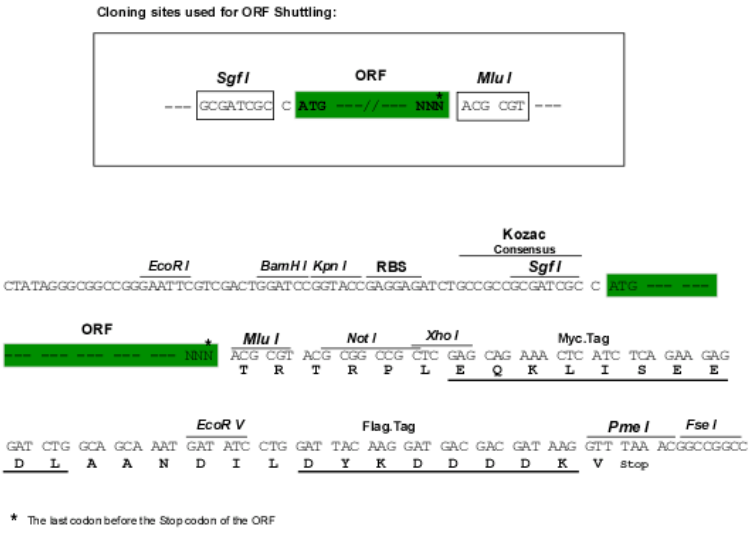
MCGRTSCHLPRDVLTRACAYQDRRGQQRLPEWRDPDKYCPSYNKSPQSNSPVLLSRLHFEKDADSSERII
APMRWGLVPSWFKESDPSKLQFNTTNCRSDTVMEKRSFKVPLGKGRRCVVLADGFYEWQRCQGTNQRQPY
FIYFPQIKTEKSGSIGAADSPENWEKVWDNWRLLTMAGIFDCWEPPEGGDVLYSYTIITVDSCKGLSDIH
HRMPAILDGEEAVSKWLDFGEVSTQEALKLIHPTENITFHAVSSVVNNSRNNTPECLAPVDLVVKKELRA
SGSSQRMLQWLATKSPKKEDSKTPQKEESDVPQWSSQFLQKSPLPTKRGTAGLLEQWLKREKEEEPVAKR
PYSQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6455_h04.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_020187

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_020187.3

RefSeq Size: 1638 bp

RefSeq ORF: 1065 bp

Locus ID: 56941

UniProt ID: Q96FZ2

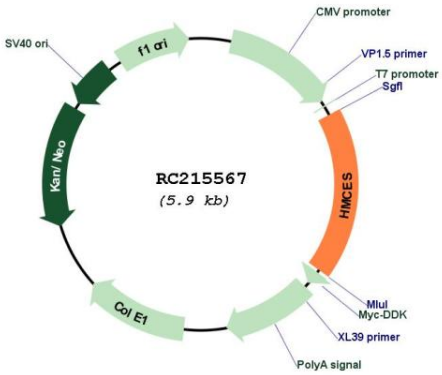
Cytogenetics: 3q21.3

Domains: DUF159

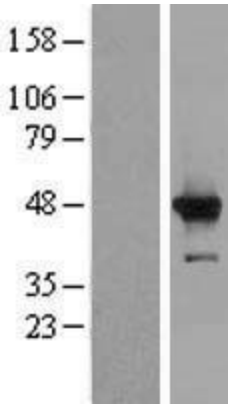
MW: 40.6 kDa

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]

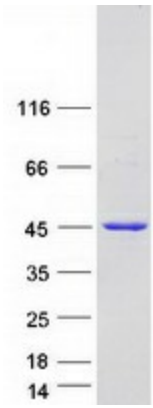
Product images:



Circular map for RC215567



Western blot validation of overexpression lysate (Cat# [LY412609]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC215567 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified HMCES protein (Cat# [TP315567]). The protein was produced from HEK293T cells transfected with HMCES cDNA clone (Cat# RC215567) using MegaTran 2.0 (Cat# [TT210002]).