

Recombinant Human HMCES Protein, Myc/DDK-tagged, C13 and N15-labeled

Cat. No. HMCES-2613H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	C3orf37 MS Standard C13 and N15-labeled recombinant protein (NP_001006109) with a C-terminal MYC/DDK tag, was expressed in HEK293 cells.
Species	Human
Source	HEK293
Description	Sensor of abasic sites in single-stranded DNA (ssDNA) required to preserve genome integrity by promoting error-free repair of abasic sites. 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. The HMCES DNA-protein cross-link is then degraded by the proteasome. 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. Has preference for ssDNA, but can also accommodate double-stranded DNA with 3' or 5' overhang (dsDNA), and dsDNA-ssDNA 3' junction. 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. Acts as a protease: mediates autocatalytic processing of its N-terminal

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methionine in order to expose the catalytic cysteine.

Molecular Mass	40.6 kDa
AA Sequence	MCGRTSCHLPRDVLTRACAYQDRRGQQRLPEWRDPDKYCPSYNKSPQSNPVL SRLHFEKDADSSERIIAPMRWGLVPSWFKESDPSKLQFNTTNCRSDTVMEKRSFKV PLGKGRRCVVLADGFYEWQRCQGTNQRQPYFIYFPQIKTEKSGSIGAADSPENWEK VWDNWRLLTAMAGIFDCWEPPEGGDVLYSYTIITVDSCKGLSDIHRMPAILDGEEAV SKWLDFGEVSTQEALKLIHPTENITFAVSSVNNNSRNTPECLAPVDLVVKELRA SGSSQRMQLQWLATKSPKKEDSKTPQKEESDVPQWSSQFLQKSPLPTKRGTAGLLE QWLKREKEEEPVAKRYPYSQTRTRPLEQKLISEEDLAANDILDYKDDDDKV
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 3 months from receipt of products under proper storage and handling conditions.
Storage	Store at -80 centigrade. Avoid repeated freeze-thaw cycles.
Concentration	50 µg/mL as determined by BCA
Storage Buffer	100 mM glycine, 25 mM Tris-HCl, pH 7.3.

GENE INFORMATION

Gene Name	HMCE5 5-hydroxymethylcytosine binding, ES cell specific [Homo sapiens (human)]
Official Symbol	HMCE5
Synonyms	HMCE5; 5-hydroxymethylcytosine binding, ES cell specific; DC12; SRAPD1; C3orf37; abasic site processing protein HMCE5; 5-hydroxymethylcytosine (hmC) binding, ES

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cell-specific; ES cell-specific 5hmC-binding protein; SOS response associated peptidase domain containing 1; SRAP domain-containing protein 1; UPF0361 protein C3orf37; embryonic stem cell-specific 5-hydroxymethylcytosine-binding protein; peptidase HMCES; putative endonuclease HMCES; putative peptidase SRAPD1

Gene ID [56941](#)

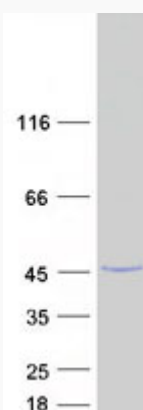
mRNA Refseq [NM_001006109](#)

Protein Refseq [NP_001006109](#)

MIM [618288](#)

UniProt ID [Q96FZ2](#)

SDS-PAGE



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