

Recombinant Mouse Hmces Protein, Myc/DDK-tagged

Cat. No. Hmces-3410M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length 5-hydroxymethylcytosine (hmC) binding, ES cell specific (Hmces), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
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 40.2 kDa

Purity > 80% as determined by SDS-PAGE and Coomassie blue staining

Stability Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.

Storage Store at -80 centigrade after receiving vials.

Concentration >50 µg/mL as determined by microplate BCA method

Storage Buffer 25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name Hmces 5-hydroxymethylcytosine (hmC) binding, ES cell specific [*Mus musculus* (house mouse)]

Official Symbol Hmces

Synonyms Hmces; 5-hydroxymethylcytosine (hmC) binding, ES cell specific; S; Srap1; C85376; 8430410A17Rik; abasic site processing protein HMCES; ES cell-specific 5hmC-binding protein; SRAP domain-containing protein 1; UPF0361 protein C3orf37 homolog; embryonic stem cell-specific 5-hydroxymethylcytosine-binding protein; peptidase HMCES; putative endonuclease HMCES; putative peptidase SRAPD1

Gene ID 232210

mRNA Refseq NM_173737

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Protein Refseq	NP_776098
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UniProt ID	Q8R1M0
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