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

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

	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

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

Protein Refseq	NP_776098
UniProt ID	Q8R1M0

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA