

Recombinant Mouse Dtl Protein, Myc/DDK-tagged

Cat. No. Dtl-2669M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length denticleless E3 ubiquitin protein ligase (Dtl), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	Substrate-specific adapter of a DCX (DDB1-CUL4-X-box) E3 ubiquitin-protein ligase complex required for cell cycle control, DNA damage response and translesion DNA synthesis. The DCX(DTL) complex, also named CRL4(CDT2) complex, mediates the polyubiquitination and subsequent degradation of CDT1, CDKN1A/p21(CIP1), FBH1, KMT5A and SDE2. CDT1 degradation in response to DNA damage is necessary to ensure proper cell cycle regulation of DNA replication. CDKN1A/p21(CIP1) degradation during S phase or following UV irradiation is essential to control replication licensing. KMT5A degradation is also important for a proper regulation of mechanisms such as TGF-beta signaling, cell cycle progression, DNA repair and cell migration. Most substrates require their interaction with PCNA for their polyubiquitination: substrates interact with PCNA via their PIP-box, and those containing the 'K+4' motif in the PIP box, recruit the DCX(DTL) complex, leading to their degradation. In undamaged proliferating cells, the DCX(DTL) complex also promotes the 'Lys-164' monoubiquitination of PCNA, thereby being involved in PCNA-dependent translesion DNA synthesis. The DDB1-CUL4A-DTL E3 ligase complex regulates the circadian clock function by mediating the ubiquitination and degradation of CRY1.

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Molecular Mass	79.6 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	Dtl denticleless E3 ubiquitin protein ligase [<i>Mus musculus</i> (house mouse)]
Official Symbol	Dtl
Synonyms	DTL; denticleless homolog (<i>Drosophila</i>); denticleless protein homolog; Meth A ramp; lethal(2) denticleless protein homolog; retinoic acid-regulated nuclear matrix-associated protein; retinoic-acid regulated nuclear matrix-associated protein; meth A retinoic acid-regulated nuclear matrix-associated protein; Ramp; 2810047L02Rik; 5730564G15Rik
Gene ID	76843
mRNA Refseq	NM_029766
Protein Refseq	NP_084042

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UniProt ID

Q3TLR7

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