

Recombinant Mouse Dtd2 Protein, Myc/DDK-tagged

Cat. No. Dtd2-2668M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length D-tyrosyl-tRNA deacylase 2 (Dtd2), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	Deacylates mischarged D-aminoacyl-tRNAs. Also deacylates mischarged glycyl-tRNA(Ala), protecting cells against glycine mischarging by AlaRS. Probably acts by rejecting L-amino acids from its binding site rather than specific recognition of D-amino acids. Catalyzes the hydrolysis of D-tyrosyl-tRNA(Tyr), has no activity on correctly charged L-tyrosyl-tRNA(Tyr). By recycling D-aminoacyl-tRNA to D-amino acids and free tRNA molecules, this enzyme counteracts the toxicity associated with the formation of D-aminoacyl-tRNA entities in vivo and helps enforce protein L-homochirality. In contrast to DTD1, deacylates L-Ala mischarged on tRNA(Thr)(G4.U69) by alanine-tRNA ligase AARS. Can deacylate L-Ala due to a relaxed specificity for substrate chirality caused by the trans conformation of the Gly-Pro motif in the active site. Also hydrolyzes correctly charged, achiral, glycyl-tRNA(Gly) in vitro, although in vivo EEF1A1/EF-Tu may protect cognate achiral glycyl-tRNA(Gly) from DTD2-mediated deacetylation.
Molecular Mass	18.2 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining

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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	Dtd2 D-tyrosyl-tRNA deacylase 2 [<i>Mus musculus</i> (house mouse)]
Official Symbol	Dtd2
Synonyms	Dtd2; D-tyrosyl-tRNA deacylase 2; ATD; 4930578F06Rik; 6530401N04Rik; B830049N13Rik; D-aminoacyl-tRNA deacylase 2; L-alanyl-tRNA deacylase; animalia-specific tRNA deacylase; animalia-specific tRNA deacylase; probable D-tyrosyl-tRNA(Tyr) deacylase 2; putative D-tyrosyl-tRNA deacylase 2; putative D-tyrosyl-tRNA(Tyr) deacylase 2; EC 3.1.1.96
Gene ID	328092
mRNA Refseq	NM_029545
Protein Refseq	NP_083821
UniProt ID	Q8BHA3

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