

Recombinant Rat DIO3 Protein, His/MBP-tagged

DIO3-385R Rat

Lot. No. (See product label)

Specification

Product Overview

Recombinant Rat DIO3(Arg11~Arg277) fused with His/MBP tag at N-terminal was expressed in E. coli.

Description

The protein encoded by this intronless gene belongs to the iodothyronine deiodinase family. It catalyzes the inactivation of thyroid hormone by inner ring deiodination of the prohormone thyroxine (T4) and the bioactive hormone 3,3',5-triiodothyronine (T3) to inactive metabolites, 3,3',5'-triiodothyronine (RT3) and 3,3'-diiodothyronine (T2), respectively. This enzyme is highly expressed in pregnant uterus, placenta, fetal and neonatal tissues, and thought to prevent premature exposure of developing fetal tissues to adult levels of thyroid hormones. It regulates circulating fetal thyroid hormone concentrations, and thus plays a critical role in mammalian development. Knockout mice lacking this gene exhibit abnormalities related to development and reproduction, and increased activity of this enzyme in infants with hemangiomas causes severe hypothyroidism. This protein is a selenoprotein, containing the rare selenocysteine (Sec) amino acid at its active site. Sec is encoded by the UGA codon, which normally signals translation termination. The 3' UTRs of selenoprotein mRNAs contain a conserved stem-loop structure, designated the Sec insertion sequence (SECIS) element, that is necessary for the recognition of UGA as a Sec codon rather than as a stop signal.

Source

E. coli

Species

Rat

Tag

His/MBP

Form

PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.

Molecular Mass

77.0kDa

Protein length

Arg11~Arg277

Endotoxin

<1.0EU per 1µg (determined by the LAL method)

Purity

>95%

Applications

Positive Control; Immunogen; SDS-PAGE; WB.

If bio-activity of the protein is needed, please check active protein.

Stability

The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37 centigrade for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

Storage

Avoid repeated freeze/thaw cycles. Store at 2-8 centigrade for one month. Aliquot and store at -80

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centigrade for 12 months.

Reconstitution Reconstitute in PBS or others.

Gene Information

Gene Name [Dio3 deiodinase, iodothyronine, type III \[Rattus norvegicus \]](#)

Official Symbol [DIO3](#)

Synonyms DIO3; deiodinase, iodothyronine, type III; type III iodothyronine deiodinase; type 3 DI; type-III 5-deiodinase; deiodinase, iodothyronine, type 3; 5DIII; DIOIII;

Gene ID [29475](#)

mRNA Refseq [NM_017210](#)

Protein Refseq [NP_058906](#)

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