

Recombinant Rat Dio1 Protein, His-tagged

Cat. No. Dio1-1339R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Rat Dio1 Protein (Thr31-Phe257) with N-His tag was expressed in E. coli.
Species	Rat
Source	E.coli
ProteinLength	Thr31-Phe257
Description	The protein encoded by this gene belongs to the iodothyronine deiodinase family. It catalyzes the activation, as well as the inactivation of thyroid hormone by outer and inner ring deiodination, respectively. The activation reaction involves the conversion of the prohormone thyroxine (3,5,3',5'-tetraiodothyronine, T4), secreted by the thyroid gland, to the bioactive thyroid hormone (3,5,3'-triiodothyronine, T3) by 5'-deiodination. This protein is expressed predominantly in the liver and kidney and provides most of the circulating T3, which is essential for growth, differentiation and basal metabolism in vertebrates. This protein is a selenoprotein, containing the rare amino acid selenocysteine (Sec) 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. Alternatively spliced transcript variants have been found for this gene.

 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

Form	Freeze-dried powder
Molecular Mass	Predicted Molecular Mass: 27 kDa
Purity	> 95%
Applications	Positive Control; Immunogen; SDS-PAGE; WB.
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 centigrade for 12 months.
Storage Buffer	PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Reconstitution	Reconstitute in PBS or others.

GENE INFORMATION

Gene Name	Dio1 deiodinase, iodothyronine, type I [<i>Rattus norvegicus</i> (Norway rat)]
Official Symbol	Dio1
Synonyms	DIO1; deiodinase, iodothyronine, type I; type I iodothyronine deiodinase; DIOI; type 1 DI; type-I 5-deiodinase; thyroxine deiodinase, type I; 5DI; ITDI1; TXDI1; MGC93462;
Gene ID	25430

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mRNA Refseq	NM_021653
Protein Refseq	NP_067685
UniProt ID	P24389

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