

Recombinant Mouse Dio2 Protein, His-tagged

Cat. No. Dio2-1340M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse Dio2 Protein (Ser30-Phe259) with N-His tag was expressed in E. coli.
Species	Mouse
Source	E.coli
ProteinLength	Ser30-Phe259
Description	The protein encoded by this gene belongs to the iodothyronine deiodinase family. It catalyzes the conversion of prohormone thyroxine (3,5,3',5'-tetraiodothyronine, T4) to the bioactive thyroid hormone (3,5,3'-triiodothyronine, T3) by outer ring 5'-deiodination. This gene is highly expressed in brain, placenta and mammary gland. It is thought to be responsible for the 'local' production of T3, and thus important in influencing thyroid hormone action in these tissues. Knockout studies in mice suggest that this gene may play an important role in brown adipose tissue lipogenesis, auditory function, and bone formation. This protein is a selenoprotein containing the non-standard amino acid, selenocysteine (Sec), which is encoded by the UGA codon that 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. Unlike the other two members (DIO1 and DIO3) of this enzyme family, the mRNA for this gene contains an additional in-frame UGA codon that has been reported (in human) to function either as a Sec or a stop codon, resulting in two

 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

potential isoforms with one or two Sec residues; however, only the upstream Sec (conserved with the single Sec residue found at the active site in DIO1 and DIO3) was shown to be essential for enzyme activity (PMID:10403186). In addition, the lack of conservation of the protein extension past the second TGA codon suggests that the one-Sec containing isoform represents the canonical form.

Form	Freeze-dried powder
Molecular Mass	Predicted Molecular Mass: 72.4 kDa
Purity	> 97%
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.

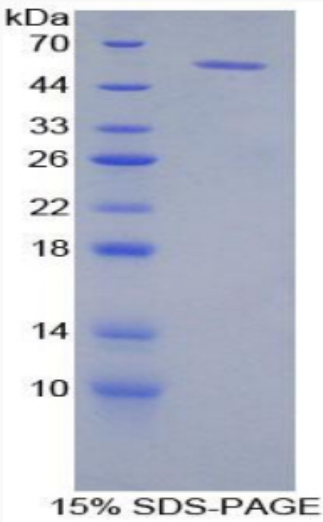
GENE INFORMATION

Gene Name	Dio2 deiodinase, iodothyronine, type II [<i>Mus musculus</i> (house mouse)]
Official Symbol	Dio2

 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

Synonyms	DIO2; deiodinase, iodothyronine, type II; type II iodothyronine deiodinase; type 2 DI; type-II 5 deiodinase; type-II 5-deiodinase; iodothyronine type II deiodinase; 5DII; DIOII; AI324267;
Gene ID	13371
mRNA Refseq	NM_010050
Protein Refseq	NP_034180
UniProt ID	Q9Z1Y9
 15% SDS-PAGE	