

## Recombinant Mouse Dio3 Protein, His-tagged

**Cat. No.** Dio3-1342M    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| <b>Product Overview</b> | Recombinant Mouse Dio3 Protein (Arg11-Arg277) with N-His tag was expressed in E. coli.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Species</b>          | Mouse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>ProteinLength</b>    | Arg11-Arg277                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Description</b>      | <p>This is an intronless, imprinted gene that is preferentially expressed from the paternal allele in the mouse fetus. The encoded protein belongs to the iodothyronine deiodinase family, and 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. It is highly expressed in placenta, fetal and neonatal tissues, and thought to prevent premature exposure of developing fetal tissues to adult levels of thyroid hormones. It thus plays a critical role in mammalian development by regulating circulating fetal thyroid hormone concentration. Knockout mice lacking this gene exhibit severe abnormalities related to development and reproduction. 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</p> |

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|                       |                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | stop signal.                                                                                                                                                                                                                                                                                                                                 |
| <b>Form</b>           | Freeze-dried powder                                                                                                                                                                                                                                                                                                                          |
| <b>Molecular Mass</b> | Predicted Molecular Mass: 77.0 kDa                                                                                                                                                                                                                                                                                                           |
| <b>Purity</b>         | > 97%                                                                                                                                                                                                                                                                                                                                        |
| <b>Applications</b>   | Positive Control; Immunogen; SDS-PAGE; WB.                                                                                                                                                                                                                                                                                                   |
| <b>Stability</b>      | 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. |
| <b>Storage</b>        | Avoid repeated freeze/thaw cycles. Store at 2-8 centigrade for one month. Aliquot and store at -80 centigrade for 12 months.                                                                                                                                                                                                                 |
| <b>Storage Buffer</b> | PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.                                                                                                                                                                                                                                                                      |
| <b>Reconstitution</b> | Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.                                                                                                                                                                                                                                                         |

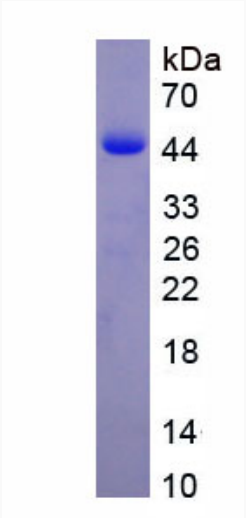
## GENE INFORMATION

|                        |                                                                               |
|------------------------|-------------------------------------------------------------------------------|
| <b>Gene Name</b>       | Dio3 deiodinase, iodothyronine type III [ <i>Mus musculus</i> (house mouse) ] |
| <b>Official Symbol</b> | Dio3                                                                          |
| <b>Synonyms</b>        | DIO3; deiodinase, iodothyronine type III;                                     |

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|-------------------------------------------------------------------------------------|-----------|
| Gene ID                                                                             | 107585    |
| mRNA Refseq                                                                         | NM_172119 |
| Protein Refseq                                                                      | NP_742117 |
| UniProt ID                                                                          | Q91ZI8    |
|  |           |