

# Recombinant Full Length Human DIO3 Protein, GST-tagged

**Cat. No.** DIO3-2565HF    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <b>Product Overview</b> | Human DIO3 full-length ORF ( AAH17717, 1 a.a. - 143 a.a.) recombinant protein with GST-tag at N-terminal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Source</b>           | In Vitro Cell Free System                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>ProteinLength</b>    | 143 amino acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Description</b>      | <p>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</p> |

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|                       |                                                                                                                                                           |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | than as a stop signal. [provided by RefSeq, May 2016]                                                                                                     |
| <b>Molecular Mass</b> | 41.47 kDa                                                                                                                                                 |
| <b>AA Sequence</b>    | MLRSLLLHSLRLCAQTASCLVLFPRFLGTAFMLWLLDFLCIRKHFLGRRRRRGQPEPE<br>VELNSEGEEVPPDDPPICVSDDNRLCTLASLKAVWHGQKLDFFKQAHEGGPAPNSE<br>VVLDPDGFQSQHILDYAQGNRPLVLNFGSCT |
| <b>Applications</b>   | Enzyme-linked Immunoabsorbent Assay<br>Western Blot (Recombinant protein)<br>Antibody Production<br>Protein Array                                         |
| <b>Notes</b>          | Best use within three months from the date of receipt of this protein.                                                                                    |
| <b>Storage</b>        | Store at -80 centigrade. Aliquot to avoid repeated freezing and thawing.                                                                                  |
| <b>Storage Buffer</b> | 50 mM Tris-HCl, 10 mM reduced Glutathione, pH=8.0 in the elution buffer.                                                                                  |

## GENE INFORMATION

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|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | DIO3 deiodinase, iodothyronine, type III [ Homo sapiens ]                                                                                                                                                                                                                                        |
| <b>Official Symbol</b> | DIO3                                                                                                                                                                                                                                                                                             |
| <b>Synonyms</b>        | DIO3; deiodinase, iodothyronine, type III; TXDI3; type III iodothyronine deiodinase; type 3 DI; type-III 5 deiodinase; type-III 5-deiodinase; type 3 iodothyronine selenodeiodinase; iodothyronine deiodinase, placental type; thyroxine deiodinase type III (selenoprotein); D3; 5DIII; DIOIII; |
| <b>Gene ID</b>         | 1735                                                                                                                                                                                                                                                                                             |

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|----------------|---------------------------|
| mRNA Refseq    | <a href="#">NM_001362</a> |
| Protein Refseq | <a href="#">NP_001353</a> |
| MIM            | <a href="#">601038</a>    |
| UniProt ID     | <a href="#">P55073</a>    |

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