Recombinant Human DIO3 Protein, GST-tagged

Cat. No. DIO3-2629H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Human DIO3 full-length ORF (AAH17717, 1 a.a. - 143 a.a.) recombinant protein with GST-tag at N-terminal.
Species	Human
Source	Wheat Germ
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. [provided by RefSeq, May 2016]

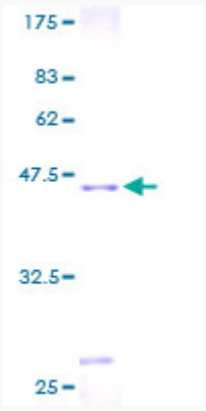
Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

Molecular Mass	41.47 kDa
AA Sequence	MLRSLLLHSLRLCAQTASCLVLFPRFLGTAFMLWLLDFLCIRKHFLGRRRRGQPEPE VELNSEGEEVPPDDPPICVSDDNRLCTLASLKAVWHGQKLDFFKQAHEGGPAPNSE VVLPDGFQSQHILDYAQGNRPLVLNFGSCT
Applications	Enzyme-linked Immunoabsorbent Assay Western Blot (Recombinant protein) Antibody Production Protein Array
Notes	Best use within three months from the date of receipt of this protein.
Storage	Store at -80 centigrade. Aliquot to avoid repeated freezing and thawing.
Storage Buffer	50 mM Tris-HCl, 10 mM reduced Glutathione, pH=8.0 in the elution buffer.

GENE INFORMATION

Gene Name	DIO3 deiodinase, iodothyronine, type III [Homo sapiens]
Official Symbol	DIO3
Synonyms	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;
Gene ID	1735
mRNA Refseq	NM_001362

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Protein Refseq	NP_001353
MIM	601038
UniProt ID	P55073
Quality Control Testing:	 12.5% SDS-PAGE Stained with Coomassie Blue.

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