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Product Information

MemDX™ Membrane Protein Human DIO3 (Iodothyronine deiodinase 3) Full Length

Cat. No.: **MPC4197K**
This product is for research use only and is not intended for diagnostic use.

This product is a made-to-order Human DIO3 membrane protein expressed in HEK293. The protein is for research use only and is not approved for use in humans or in clinical diagnosis.

Product Specifications

Host Species
Human

Target Protein
DIO3

Protein Length
Full length

Protein Class
Oxidoreductase

TMD
1

Sequence
MPRQATSRLVVGEGEGSQGASGPAATMLRSLLLHSLRLCAQTASCLVLFP
RFLGTAFMLWLLDFLCIRKHFLGRRRRGQPEPEVELNSEGEEVPPDDPPI
CVSDDNRLCTLASLKAVWHGQKLDFFKQAHEGGPAPNSEVVLPDGFQSQH
ILDYAQGNRPLVLNFGSCTUPPFMARMSAFQRLVTKYQRDVDFLIIYIEE
AHPSDGWVTTDSPYIIPQHRSLEDRVSAARVLQQGAPGCALVLDTMANSS
SSAYGAYFERLYVIQSGTIMYQGGRGPDGYQVSELRTWLERYDEQLHGAR
PRRV

Product Description

Expression Systems
HEK293

Tag
Based on specific requirements

Protein Format
Detergent or based on specific requirements (Detergent, Liposome, Nanodisc, Polymer, VLP)

Form

Liquid

Storage

Aliquot and store at -20°C or lower. For long term storage, we recommend to store at -72°C or lower. Avoid freeze/thaw cycles.

Target

Target Protein

DIO3

Full Name

Iodothyronine deiodinase 3

Introduction

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.

Alternative Names

DIO3; D3; 5DIII; TXDI3; DIOIII; thyroxine 5-deiodinase; deiodinase, iodothyronine type III; iodothyronine deiodinase, placental type; selenoprotein DIO3; thyroxine deiodinase type III (selenoprotein); type 3 DI; type 3 iodothyronine selenodeiodinase; type-III 5' deiodinase; Iodothyronine deiodinase 3

Gene ID

1735

UniProt ID

P55073