

## Product datasheet for **SC327784**

### DIO3 (NM\_001362) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	DIO3 (NM_001362) Human Untagged Clone
Symbol:	DIO3
Synonyms:	5DIII; D3; DIOIII; TXDI3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>SC327784 representing NM_001362. Blue=Insert sequence Red=Cloning site Green=Tag(s)

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GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGCCTCGCCAGGCCACGTCCGGTTGGTGGTCCGAGAGGGCGAGGGGTCCCAGGGGGCTTCGGGGCCT
GCAGCCACCATGCTCCGCTCCCTGCTGCTTCACTCCTTGAGGCTCTGCGCCAGACCCGCTCGTGCCTC
GTGCTCTTCCCGCGCTTCTCGGCACGGCCTTCATGCTCTGGCTTCTCGATTTCTTGTGTATCCGCAAG
CATTTCTGGGCCCGCCCGCCGGGGGCGAGCCGAGCCGAAGTGGAGCTCAACAGTGAAGGCGAGGAG
GTGCCTCCCGATGACCCGCCATCTGCGTGTCCGACGACAACCGCTGTGCACCTGGCGTCGCTCAAG
GCGGTGTGGCATGGCCAGAAGTTGGATTTCTTCAAGAGGCGCAGAGGGCGGTCCGGCGCCCAACTCC
GAGGTGGTTCTGCCCACGGCTTCCAGAGCCAGCACATCCTCGACTACGCGCAAGGGAACCGCCCGCTG
GTTCTCAATTTCCGCAGCTGCACCTGACCACGTTTATGGCGCGCATGAGCGCTTCCAGCGCTGGTC
ACTAAGTACCAGCGCAGCTCGACTTCCCTCATCATCTACATCGAGGAAGCGCACCCCTCCGACGGCTGG
GTCACCACGGACTCTCCCTACATCATCCACAGCACCGGAGCCTGGAGGACCGGGTACGCGCAGCGAGG
GTACTGCAGCAAGGTGCACCCGGCTGCGCTCTGGTCTCGACACCATGGCCAATCCAGCAGCTCGGCC
TATGGCGCCTACTTCGAGCGTCTCTATGTCATCCAGAGTGGCACTATTATGTACCAGGGCGGCCGTGGC
CCCAGCGCTACCAGTCTCTGAGCTGCGCACTGGTTGGAACGCTATGATGAGCAACTGCACGGCGCT
CGGCCCGGAGGGTGTAA
ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGAT
TACAAGGATGACGACGATAAGGTTTAAACGGCCGGC
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Restriction Sites:	SgfI-MluI
ACCN:	NM_001362
Insert Size:	915 bp



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<b>OTI Disclaimer:</b>	<p>Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).</p> <p>The expression of this clone is not guaranteed due to the nature of selenoproteins.</p>
<b>OTI Annotation:</b>	<p>This clone encodes a selenoprotein containing the rare amino acid selenocysteine (Sec). Sec is encoded by UGA codon, which normally signals translational termination. Expression of this clone is not guaranteed due to the nature of selenoproteins.</p>
<b>Components:</b>	<p>The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).</p>
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_001362.3</a>
<b>RefSeq Size:</b>	2120 bp
<b>RefSeq ORF:</b>	915 bp
<b>Locus ID:</b>	1735
<b>UniProt ID:</b>	<a href="#">P55073</a>
<b>Cytogenetics:</b>	14q32.31
<b>Protein Families:</b>	Druggable Genome
<b>MW:</b>	33.9 kDa

**Gene Summary:**

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]