

## Product datasheet for SC310827

### DIO1 (NM\_001039716) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	DIO1 (NM_001039716) Human Untagged Clone
Symbol:	DIO1
Synonyms:	5DI; TXDI1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>SC310827 representing NM_001039716. Blue=Insert sequence Red=Cloning site Green=Tag(s)

GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGAATTCGTCGACTG  
 GATCCGGTACCGAGGAGATCTGCCGCC**CGCATCGCC**  
 ATGGGGCTGCCCCAGCCAGGGCTGTGGCTGAAGAGGCTCTGGGTGCTCTTGGAGGTGGCTGTGCATGTG  
 GTCGTGGGTAAAGTGCTTCTGATATTGTTCCAGACAGAGTCAAGCGGAACATCCTGGCCATGGCGAG  
 AAGACGGGTATGACCAGGAACCCCATTTACGCCACGACAACCTGGATACCAACCTTTTCAGCACCCAG  
 TATTTCTGGTTCGTCTTGAAGGTCGGTGGCAGCGACTAGAGGACGAGCTAGCTAGGGGTCTGGCC  
 CCAAACTGCCCCGGTGGTCCGCTCTCAGGACAGAGGTGCAACATTTGGGAGTTTATGCAAGGTAATAGG  
 CCACTGGTGCTGAATTTTGAAGTTGTACCTGACCTTCATTTATGTTCAAATTTGACCAGTTCAAGAGG  
 CTTATTGAAGACTTTAGTTCCATAGCAGATTTTCTTGTCATTTACATTGAAGAAGCACATGCATCAGGG  
 TAA  
**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGAT  
 TACAAGGATGACGACGATAAGGTTTAAACGGCCGGC

Restriction Sites:	SgfI-MluI
ACCN:	NM_001039716
Insert Size:	486 bp
OTI Disclaimer:	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).

The expression of this clone is not guaranteed due to the nature of selenoproteins.


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<b>OTI Annotation:</b>	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.
<b>Components:</b>	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).
<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_001039716.2</a>
<b>RefSeq Size:</b>	1669 bp
<b>RefSeq ORF:</b>	486 bp
<b>Locus ID:</b>	1733
<b>UniProt ID:</b>	<a href="#">P49895</a>
<b>Cytogenetics:</b>	1p32.3
<b>Protein Families:</b>	Druggable Genome, Transmembrane
<b>MW:</b>	18.7 kDa
<b>Gene Summary:</b>	<p>The protein encoded by this gene belongs to the iodothyronine deiodinase family. It catalyzes the activation, as well as the inactivation of thyroid hormone by outer and inner ring deiodination, respectively. The activation reaction involves the conversion of the prohormone thyroxine (3,5,3',5'-tetraiodothyronine, T4), secreted by the thyroid gland, to the bioactive thyroid hormone (3,5,3'-triiodothyronine, T3) by 5'-deiodination. This protein provides most of the circulating T3, which is essential for growth, differentiation and basal metabolism in vertebrates. This protein is a selenoprotein, containing the rare amino acid selenocysteine (Sec) 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. Alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Jun 2018]</p> <p>Transcript Variant: This variant (4) lacks an exon in the 3' coding region, which causes a frameshift compared to variant 1. The resulting isoform (d) is shorter, with a distinct C-terminus compared to isoform a.</p>