

## Product datasheet for **SC328643**

### PEG10 (NM\_001172438) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PEG10 (NM_001172438) Human Untagged Clone
Tag:	Tag Free
Symbol:	PEG10
Synonyms:	EDR; HB-1; Mar2; Mart2; MEF3L; RGAG3; RTL2; SIRH1
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	<p>&gt;NCBI ORF sequence for NM_001172438, the custom clone sequence may differ by one or more nucleotides</p> <pre> ATGCGAAATAAGCGGGTTTGA AAAACAAAAAAGAAGGAGTGGAAGAGGGGCCAGGAT CCAGGCCCTCCATCCCCACAGAAGTGAAGCTACAGCTGGGAGGTCTCCTCCACCCCAACC GTCACCTGCGGTCCCGACTGCCACCTCCTCCTCCTCCCTCCCCCAACAACAACAAC AACAACTCCAAGCACACCGGCCATAAGAGTGCCTGTGTCCCCAACATGACCGAACGA AGAAGGGACGAGCTCTCTGAAGAGATCAACAACCTTAAGAGAGAAGGTCATGAAGCAGTCG GAGGAGAACAAACCTGCAGAGCCAGGTGCAGAAGCTCACAGAGGAGAACACCACCTT CGAGAGCAAGTGAACCCACCCCTGAGGATGAGGATGATGACATCGAGCTCCGCGGTGCT GCAGCAGCTGCTGCCCCACCCCTCCAATAGAGGAAGAGTGCCCAAGACCTCCAGAG AAGTTCGATGGCAACCCAGACATGCTGGCTCCTTTCATGGCCAGTGCCAGATCTTCATG GAAAAGAGCACCAGGGATTTCTCAGTTGATCGTGTCCTGTCTGCTTCGTGACAAGCATG ATGACCGGCCGTGCTGCCCGTTGGGCCTCAGCAAAGCTGGAGCGCTCCCACTACCTGATG CACAACCTACCCAGCTTTTCATGATGGAATGAAGCATGTCTTTGAAGACCTCAGAGGCGA GAGGTTGCCAAACGCAAGATCAGACGCCTGCGCCAAGGCATGGGGTCTGTGATCGACTAC TCCAATGCTTTCAGATGATTGCCAGGACCTGGATTGGAACGAGCCTGCGCTGATTGAC CAGTACCACGAGGGCCTCAGCGACCACATTCAGGAGGAGCTCTCCACCTCGAGGTGCC AAGTCGCTGTCTGCTCTGATTGGGCAGTGCAATTCATTGAGAGAAGGCTGGCCAGGGCT GCTGCAGCTCGCAAGCCACGCTCGCCACCCGGGCGCTGGTGTTCCTCACATTGCAAGC CACCACAGGTAGATCCAACCGAGCCGCTGGGAGGTGCCCGCATGCGCCTGACGCAGGAA GAAAAAGAAAGACGCAGAAAGCTGAACCTGTGCCTCTACTGTGGAACAGGAGGTCACTAC GCTGACAATTGCTGCTGCAAGGCCTCAAAGTCTTCGCCGGCGGGAACTCCCGGCCCGG CTGTAG </pre>
Restriction Sites:	Please inquire
ACCN:	NM_001172438


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<b>OTI Disclaimer:</b>	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).
<b>OTI Annotation:</b>	This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
<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>	<u>NM_001172438.1, NP_001165909.1</u>
<b>RefSeq Size:</b>	6602 bp
<b>RefSeq ORF:</b>	1206 bp
<b>Locus ID:</b>	23089
<b>Cytogenetics:</b>	7q21.3

**Gene Summary:**

This is a paternally expressed imprinted gene that is thought to have been derived from the Ty3/Gypsy family of retrotransposons. It contains two overlapping open reading frames, RF1 and RF2, and expresses two proteins: a shorter, gag-like protein (with a CCHC-type zinc finger domain) from RF1; and a longer, gag/pol-like fusion protein (with an additional aspartic protease motif) from RF1/RF2 by -1 translational frameshifting (-1 FS). While -1 FS has been observed in RNA viruses and transposons in both prokaryotes and eukaryotes, this gene represents the first example of -1 FS in a eukaryotic cellular gene. This gene is highly conserved across mammalian species and retains the heptanucleotide (GGGAAAC) and pseudoknot elements required for -1 FS. It is expressed in adult and embryonic tissues (most notably in placenta) and reported to have a role in cell proliferation, differentiation and apoptosis. Overexpression of this gene has been associated with several malignancies, such as hepatocellular carcinoma and B-cell lymphocytic leukemia. Knockout mice lacking this gene showed early embryonic lethality with placental defects, indicating the importance of this gene in embryonic development. Additional isoforms resulting from alternatively spliced transcript variants, and use of upstream non-AUG (CUG) start codon have been reported for this gene. [provided by RefSeq, Oct 2014]

Transcript Variant: This variant (2) has two overlapping open reading frames (RF1 and RF2). It uses an alternate donor splice site at the 5' terminal exon and initiates translation from an alternate, upstream AUG compared to variant 1. This isoform (4) produced from RF1 in the absence of -1 translational frameshifting has a longer and distinct N-terminus, but a shorter C-terminus compared to isoform 1.