

## Product datasheet for RC211998

### Oct4 (POU5F1) (NM\_002701) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Oct4 (POU5F1) (NM_002701) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Oct4
Synonyms:	Oct-3; Oct-4; OCT3; OCT4; OTF-3; OTF3; OTF4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC211998 representing NM_002701 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCGGGACACCTGGCTTCGGATTTTCGCTTCTCGCCCCCTCCAGGTGGTGGAGGTGATGGGCCAGGGG  
GGCCGGAGCCGGGCTGGTTGATCCTCGGACCTGGCTAAGCTTCCAAGGCCCTCTGGAGGGCCAGGAAT  
CGGGCCGGGGTTGGGCCAGGCTCTGAGGTGTGGGGGATCCCCCATGCCCCCGCCGTATGAGTTCTGT  
GGGGGATGGCGTACTGTGGCCCCAGGTTGGAGTGGGGCTAGTGCCCCAAGCGGCTTGGAGACCTCTC  
AGCCTGAGGGCGAAGCAGGAGTCGGGGTGGAGAGCAACTCCGATGGGGCCTCCCCGGAGCCCTGCACCGT  
CACCCCTGGTGCCGTGAAGCTGGAGAAGGAGAAGCTGGAGCAAAACCCGGAGGAGTCCCAGGACATCAAA  
GCTCTGCAGAAAGAACTCGAGCAATTTGCCAAGCTCCTGAAGCAGAAGAGGATCACCCCTGGGATATACAC  
AGGCCGATGTGGGGCTCACCCCTGGGGTTCTATTTGGGAAGGTATTCAGCCAAACGACCATCTGCCGCTT  
TGAGGCTCTGCAGCTTAGCTTCAAGAACATGTGTAAGCTGCGGCCCTTGCTGCAGAAGTGGGTGGAGGAA  
GCTGACAACAATGAAAATCTTCAGGAGATATGCAAAGCAGAAACCCCTCGTGCAGGCCCGAAAAGAGAAAGC  
GAACAGTATCGAGAACCGAGTGAGAGGCAACCTGGAGAATTTGTTCTCGAGTGCCCGAAACCGACACT  
GCAGCAGATCAGCCACATCGCCCAGCAGCTTGGGCTCGAGAAGGATGTGGTCCGAGTGTGGTTCTGTAAC  
CGGCGCCAGAAGGGCAAGCGATCAAGCAGCGACTATGCACAACGAGAGGATTTTGGGCTGCTGGGTCTC  
CTTCTCAGGGGACCAGTGTCTTCTCCTGCGCCCGAGGGCCCAATTTGGTACCCAGGCTATGGGAG  
CCCTCACTTCACTGCACTGTACTCCTCGTCCCTTCCCTGAGGGGAAGCCTTCCCCCTGTCTCCGTC  
ACCACTCTGGGCTCTCCCATGCATTCAAC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTAA



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**Protein Sequence:** >RC211998 representing NM\_002701  
 Red=Cloning site Green=Tags(s)

MAGHLASDFAFSPPPGGGGDGGGPEPGWVDPRTWLSFQPPGGPGIGPGVGPSEVWGIPPCPPPYEFC  
 GGMAYCGPQVGVGLVPQGGLETSQPEGEAGVGVESNSDASPEPCTVTPGAVKLEKEKLEQNPEESQDIK  
 ALQKELEQFAKLLKQKRITLGYTQADVGLTLGVLFGKVF SQTTCRFEALQLSFKNMCKLRPLLQKWVEE  
 ADNENLQEICKAETLVQARKRKRTSIENRVRGNLENLFLQCPKPTLQQISHIAQQLGLEKDVVRVWFCN  
 RRQKGRSSSDYAQREDFEAAGSPFSGGPVSFPLAPGPHFGTPGYGSPHFTALYSSVPFPEGEAFPPVSV  
 TTLGSPMHSN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6123\\_a02.zip](https://cdn.origene.com/chromatograms/mk6123_a02.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_002701

**ORF Size:** 1080 bp

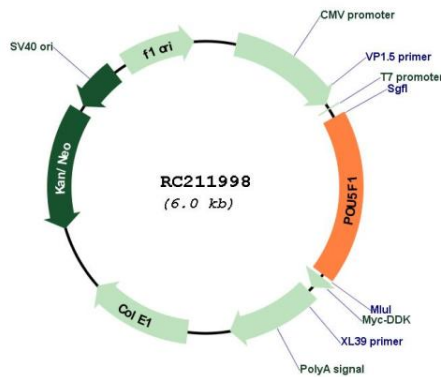
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

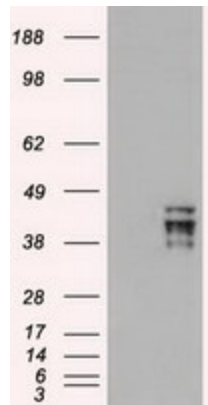
**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

<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_002701.6</u>
<b>RefSeq Size:</b>	1417 bp
<b>RefSeq ORF:</b>	1083 bp
<b>Locus ID:</b>	5460
<b>UniProt ID:</b>	<u>Q01860</u>
<b>Cytogenetics:</b>	6p21.33
<b>Protein Families:</b>	Adult stem cells, Cancer stem cells, Embryonic stem cells, Induced pluripotent stem cells, Stem cell - Pluripotency, Transcription Factors
<b>MW:</b>	38.4 kDa
<b>Gene Summary:</b>	<p>This gene encodes a transcription factor containing a POU homeodomain that plays a key role in embryonic development and stem cell pluripotency. Aberrant expression of this gene in adult tissues is associated with tumorigenesis. This gene can participate in a translocation with the Ewing's sarcoma gene on chromosome 21, which also leads to tumor formation. Alternative splicing, as well as usage of alternative AUG and non-AUG translation initiation codons, results in multiple isoforms. One of the AUG start codons is polymorphic in human populations. Related pseudogenes have been identified on chromosomes 1, 3, 8, 10, and 12. [provided by RefSeq, Oct 2013]</p>

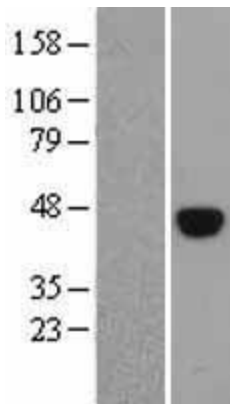
Product images:



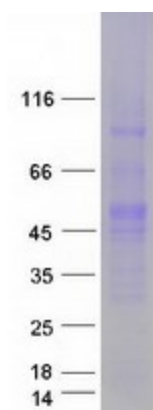
Circular map for RC211998



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY OCT4 (Cat# RC211998, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-OCT4 (Cat# [TA500035]). Positive lysates [LY400950] (100ug) and [LC400950] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400950]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC211998 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified POU5F1 protein (Cat# [TP311998]). The protein was produced from HEK293T cells transfected with POU5F1 cDNA clone (Cat# RC211998) using MegaTran 2.0 (Cat# [TT210002]).