

## Product datasheet for **RG233011**

### **MELK (NM\_001256685) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	MELK (NM_001256685) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	MELK
Synonyms:	HPK38
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG233011 representing NM\_001256685  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAAAGATTATGATGAACCTTCTCAAATATTATGAATTACATGAAACTATTGGGACAGGTGGCTTTGCAA  
 AGGTCAAACCTTGCTGCCATATCCTTACTGGAGAGATGGTAGCTATAAAAATCATGGATAAAAACACACT  
 AGGGAGTGATTTGCCCGGATCAAAACGGAGATTGAGGCCTTGAAGAACCTGAGACATCAGCATATATGT  
 CAACTCTACCATGTGCTAGAGACAGCCAACAAAATATTTCATGGTCTTGAGTACTGCCCTGGAGGAGAGC  
 TGTTTGACTATATAATTTCCAGGATCGCTGTGAGAAGAGGAGACCCGGGTTGCTTCCGTGAGATAGT  
 ATCTGCTGTTGCTTATGTGCACAGCCAGGGCTATGCTCACAGGGACCTCAAGCCAGAAAATTTGCTGTTT  
 GATGAATATCATAAATTAAGCTGATTGACTTTGGTCTCTGTGCAAAACCAAGGTAACAAGGATTACC  
 ATCTACAGACATGCTGTGGGAGTCTGGCTTATGCAGCACCTGAGTTAATACAAGGCAAATCATATCTTGG  
 ATCAGAGGCAGATGTTTGGAGCATGGGCATACTGTTATATGTTCTTATGTGTGGATTTCTACCATTTGAT  
 GATGATAATGTAATGGCTTTATACAAGAAGATTATGAGAGGAAAATATGATGTTCCCAAGTGGCTCTCTC  
 CCAGTAGCATTCTGCTTCTTCAACAAATGCTGCAGGTGGACCCAAAGAAACGGATTTCTATGAAAAATCT  
 ATTGAACCATCCCTGGATCATGCAAGATTACAACATCCTGTTGAGTGGCAAAGCAAGAATCCTTTTATT  
 CACCTCGATGATGATTGCGTAACAGAACCTTCTGTACATCACAGAAAACAAGGCAAAACATGGAGGATT  
 TAATTTCACTGTGGCAGTATGATCACCTCACGGCTACCTATCTTCTGCTTCTAGCCAAGAAGGCTCGGGG  
 AAAACAGTTCGTTAAGGCTTCTTCTTCTCCTGTGGACAAGCCAGTGTACCCCATTCACAGACATC  
 AAGTTTACCAAGTACTGGACAGAATCAAATGGGGTGAATCTAAATCATTAACTCCAGCCTTATGCAGAA  
 CACCTGCAAATAAATTAAGAACAAGAAAATGTATATACTCTAAGTCTGCTGTAAGAATGAAGAGTA  
 CTTTATGTTTCCGTGAGCCAAAGACTCCAGTTAATAAGAACCAGCATAAGAGAGAAAATACTACTACGCCA  
 AATCGTTACACTACACCCTCAAAAGCTAGAAAACAGTGCCTGAAAGAACTCCAATTAATAATACCAGTAA  
 ATTCAACAGGAACAGACAAGTTAATGACAGGTGTCATTAGCCCTGAGAGGCGGTGCCCTCAGTGGAAAT  
 GGATCTCAACCAAGCACATATGGAGGAGACTCCAAAAAGAAAGGGAGCCAAAGTGTGGGAGCCTTGAA  
 AGGGGTTGGATAAGGTTATCACTGTGCTCACCAGGAGCAAAAGGAAGGGTTCTGCCAGAGACGGGCCCA  
 GAAGACTAAAGCTTCACTATAACGTGACTACAAC TAGATTAGTGAATCCAGATCAACTGTTGAATGAAAT  
 AATGTCTATTCTCCAAGAAGCATGTTGACTTTGTACAAAAGGGTTATACACTGAAGTGTCAAACACAG  
 TCAGATTTTGGAAAGTGACAATGCAATTTGAATTAGAAGTGTGCCAGCTTCAAAAACCCGATGTGGTGG  
 GTATCAGGAGGCAGCGGCTTAAGGGCGATGCCTGGGTTTACAAAAGATTAGTGGAAGACATCCTATCTAG  
 CTGCAAGGTA

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>RG233011 representing NM\_001256685  
 Red=Cloning site Green=Tags(s)

MKDYDELLKYYELHETIGTGGFAKVKLACHILTGEMVAIKIMDKNTLGSDDLPRIKTEIEALKNLRHQHIC  
 QLYHVLEATANKIFMVLEYCPGGELFDYIISQDRLSEETRVRVFRQIVSAVAVVHVSQGYAHRDLKPENLLF  
 DEYHKLKLDIFGLCAKPKGNKDYHLQTCGSLAYAAPELIQGKSYLGSEADVWSMGILLVLMCGFLPFD  
 DDNVMALYKKIMRGKYDVPKWLSPSSILLQLQMLQVDPKKRISMKNLLNHPWIMQDYNYPVEWQSKNPF  
 HLDDDCVTELSVHHRNRRQTMEDLISLWQYDHLTATYLLLLAKKARGKPVRLRLSSFSCGQASATPFTDI  
 KFTKYWTESENGVESKSLTPALCRTPANKLNKENVYTPKSAVKNEEYFMFPEPKTPVNKNQHKREILTTP  
 NRYTTPSKARNQCLKETPIKIPVNSTGDKLMTGVI SPERRCRSVELDLNQAHMEETPKRKGAKVFGSLE  
 RGLDKVITVLRSKRKGSAARDGPRRLKLNHNVTTTRLVNPQQLNEMSILPKKHVDFVQKGYTLKQCTQ  
 SDFGKVTMQFELEVCLQKPDVVGIRRRQLKGDWVYKRLVEDILSSCKV

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

SgfI-MluI



<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<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_001256685.1</a> , <a href="#">NP_001243614.1</a>
<b>RefSeq Size:</b>	2363 bp
<b>RefSeq ORF:</b>	1833 bp
<b>Locus ID:</b>	9833
<b>UniProt ID:</b>	<a href="#">Q14680</a>
<b>Cytogenetics:</b>	9p13.2
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Gene Summary:</b>	Serine/threonine-protein kinase involved in various processes such as cell cycle regulation, self-renewal of stem cells, apoptosis and splicing regulation. Has a broad substrate specificity; phosphorylates BCL2L14, CDC25B, MAP3K5/ASK1 and ZNF622. Acts as an activator of apoptosis by phosphorylating and activating MAP3K5/ASK1. Acts as a regulator of cell cycle, notably by mediating phosphorylation of CDC25B, promoting localization of CDC25B to the centrosome and the spindle poles during mitosis. Plays a key role in cell proliferation and carcinogenesis. Required for proliferation of embryonic and postnatal multipotent neural progenitors. Phosphorylates and inhibits BCL2L14, possibly leading to affect mammary carcinogenesis by mediating inhibition of the pro-apoptotic function of BCL2L14. Also involved in the inhibition of spliceosome assembly during mitosis by phosphorylating ZNF622, thereby contributing to its redirection to the nucleus. May also play a role in primitive hematopoiesis.[UniProtKB/Swiss-Prot Function]