

## Product datasheet for **RC233004**

### MELK (NM\_001256687) Human Tagged ORF Clone

#### Product data:

|                    |  |
|--------------------|--|
| Product Type:      | Expression Plasmids                        |
| Product Name:      | MELK (NM_001256687) Human Tagged ORF Clone |
| Tag:               | Myc-DDK                                    |
| Symbol:            | MELK                                       |
| Synonyms:          | HPK38                                      |
| Vector:            | pCMV6-Entry (PS100001)                     |
| E. coli Selection: | Kanamycin (25 ug/mL)                       |
| Cell Selection:    | Neomycin                                   |



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**ORF Nucleotide Sequence:**

>RC233004 representing NM\_001256687  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAAAGATTATGATGAAGTCTCAAATATTATGAATTACATGAAACTATTGGGACAGGTGGCTTTGCAA  
 AGGTCAAAGTGGCTGCCATATCCTTACTGGAGAGATGGTAGCTATAAAAATCATGGATAAAAACACACT  
 AGGGAGTGATTTGCCCGGATCAAAACGGAGATTGAGGCCTTGAAGAACCTGAGACATCAGCATATATGT  
 CAACTCTACCATGTGCTAGAGACAGCCAACAAAATATTTCATGGTCTTGAGGAAAATTTGCTGTTTGATG  
 AATATCATAAATTAAGCTGATTGACTTTGGTCTCTGTGCAAAACCAAGGGTAACAAGGATTACCATCT  
 ACAGACATGCTGTGGGAGTCTGGCTTATGCAGCACCTGAGTTAATAACAAGCAAATCATATCTGGATCA  
 GAGGCAGATGTTGGAGCATGGCATACTGTTATATGTTCTTATGTGTGGATTTCTACCATTGATGATG  
 ATATGTAAATGGCTTTATAACAAGAGATTATGAGAGGAAAATATGATGTTCCAAGTGGCTCTCTCCAG  
 TAGCATTCTGCTTCTTCAACAAATGCTGCAGGTGGACCAAGAAACGGATTTCTATGAAAAATCTATTG  
 AACCATCCCTGGATCATGCAAGATTACAACATCTCTGTTGAGTGGCAAAGCAAGAATCCTTTTATTCACC  
 TCGATGATGATTGCGTAACAGAAGTTTCTGTACATCACAGAAAACACAGGCAAACATGGAGGATTAAT  
 TTCCTGTGGCAGTATGATCACCTCACGGCTACCTATCTTCTGCTTCTAGCCAAGAAGGCTCGGGAAAA  
 CCAGTTCGTTAAGGCTTTCTTCTTCTCTCTGTGGACAAGCCAGTGTACCCCATTCACAGACATCAAGT  
 CAAATAATTGGAGTCTGGAAGATGTGACCGCAAGTGATAAAAATATGTGGCGGGATTAATAGACTATGA  
 TTGGTGTGAAGATGATTTATCAACAGGTGCTGCTACTCCCGAACATCACAGTTTACCAAGTACTGGACA  
 GAATCAAATGGGTGGAATCTAAATCATTAACTCCAGCCTTATGCAGAACACCTGCAAATAAATTAAGA  
 ACAAGAAAAATGTATATACTCTAAGTCTGTAAAGAATGAAGAGTACTTTATGTTTCTGAGCCAAA  
 GACTCCAGTTAATAAGAACCAGCATAAGAGAGAAATACTCACTACGCCAAATCGTTACACTACACCTCA  
 AAAGCTAGAAACAGTGCCTGAAAGAACTCCAATTAATAACCAGTAAATTCACAGGAACAGACAAGT  
 TAATGACAGGTGTCATTAGCCCTGAGAGGCGGTGCCGCTCAGTGGAAATGGATCTCAACCAAGCACATAT  
 GGAGGAGACTCCAAAAAGAAAGGAGCCAAAGTGTGGGAGCCTTGAAGGGGGTTGGATAAGGTTATC  
 ACTGTGCTCACCAGGAGCAAAAGGAAGGTTCTGCCAGAGACGGGCCAGAAAGACTAAAGCTTCACTATA  
 ACGTGACTACAACAGATTAGTGAATCCAGATCAACTGTTGAATGAAATAATGTCTATTCTTCAAAGAA  
 GCATGTTGACTTTGTACAAAAGGTTATACACTGAAGTGTCAAACACAGTCAGATTTGGGAAAGTGACA  
 ATGCAATTTGAATTAGAAGTGTCCAGCTTCAAAAACCCGATGTGGTGGGTATCAGGAGGCAGCGGCTTA  
 AGGGCGATGCCTGGGTTACAAAAGATTAGTGAAGACATCTATCTAGCTGCAAGGTA

**ACGCGT**ACGCGGCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC233004 representing NM\_001256687  
 Red=Cloning site Green=Tags(s)

MKDYDELLKYYELHETIGTGGFAKVKLACHILTGEMVAIKIMDKNTLGSDDLPRIKTEIEALKNLRHQHIC  
 QLYHVLETANKIFMVLEENLLFDEYHKLKIDFGLCAKPKGNKDYHLQTCGSLAYAAPELIQGKSYLGS  
 EADVWSMGILLYVLMCGFLPFDDDNVMALYKIMRGKYDVPKWLSPSSILLQQLQVDPKKRISMKNLL  
 NHPWIMQDYNYPVEWQSKNPFHLDLDDCVTELSVHHRNRRQTMEDLISLWQYDHLTATYLLLLAKKARGK  
 PVRLRLSSFSCGQASATPFTDIKSNWSLEDVTSADKNYVAGLIDYDWCEDDLSTGAATPRTSQFTKYWT  
 ESNVSKSLTPALCRTPANKLKNKENVYTPKSAVKNEEYFMFPEPKTPVNKNQHKREILTPNRYTTPS  
 KARNQCLKETPIKIPVNSTGDKLMTGVI SPERRCRSVELDLNQAHMEETPKRKGAKVFGSLERGLDKVI  
 TVLTRSKRKGSAARDGPRRLKLHYNVTTTRLVNPQQLNEIMSILPKKHVDFVQKGYTLKQQTQSDFGKVT  
 MQFELEVCQLQKPDVVGIRRQRLKGDWVYKRLVEDILSSCKV

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**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_001256687.1</a> , <a href="#">NP_001243616.1</a>   |
| <b>RefSeq Size:</b>           | 2342 bp   |
| <b>RefSeq ORF:</b>            | 1812 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>MW:</b>                    | 69.6 kDa  |
| <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] |