

## Product datasheet for **RG232909**

### MELK (NM\_001256692) Human Tagged ORF Clone

#### Product data:

|                           |  |
|---------------------------|--|
| Product Type:             | Expression Plasmids                        |
| Product Name:             | MELK (NM_001256692) 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:**

>RG232909 representing NM\_001256692  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGTTTCTTGAGGAAAATTTGCTGTTTGTATGAATATCATAAATTAAGCTGATTGACTTTGGTCTCTGTG  
 CAAAACCCAAGGTAACAAGGATTACCATCTACAGACATGCTGTGGGAGTCTGGCTTATGCAGCACCTGA  
 GTTAATACAAGGCAAATCATATCTTGGATCAGAGGCAGATGTTTGGAGCATGGGCATACTGTTATATGTT  
 CTTATGTGTGGATTTCTACCATTGATGATGATAATGTAATGGCTTTATAACAAGAAGATTATGAGAGGAA  
 AATATGATGTTCCCAAGTGGCTCTCTCCAGTAGCATTCTGCTTCTTCAACAAATGCTGCAGGTGGACCC  
 AAAGAAACGGATTTCTATGAAAAATCTATTGAACCATCCCTGGATCATGCAAGATTACAACATCCTGTT  
 GAGTGGCAAAGCAAGAATCCTTTTATTCACCTCGATGATGATTGCGTAACAGAACTTTCTGTACATCACA  
 GAAACAACAGGCAAACAATGGAGGATTTAATTTACTGTGGCAGTATGATCACCTCACGGCTACCTATCT  
 TCTGCTTCTAGCCAAGAAGGCTCGGGGAAAACAGTTCGTTTAAAGCTTTCTTCTTCTCCTGTGGACAA  
 GCCAGTGTACCCATTACAGACATCAAGTCAAATAATTGGAGTCTGGAAGATGTGACCGCAAGTGATA  
 AAAATTATGTGGCGGGATTAATAGACTATGATTGGTGTGAAGATGATTTATCAACAGGTGCTGCTACTCC  
 CCGAACATCACAGTTTACCAAGTACTGGACAGAATCAAATGGGGTGAATCTAAATCATTAACTCCAGCC  
 TTATGCAGAACACCTGCAATAAATTAAGAACAAGAAAATGTATATACTCCTAAGTCTGCTGTAAGA  
 ATGAAGAGTACTTTATGTTTCTGAGCCAAAGACTCCAGTTAATAAGAACCAGCATAAGAGAGAAATACT  
 CACTACGCCAAATCGTTACACTACCCCTCAAAGCTAGAAACCAGTGCCTGAAAGAACTCCAATTTAA  
 ATACCAGTAAATCAACAGGAACAGACAAGTTAATGACAGGTGTCATTAGCCCTGAGAGGCGGTGCCGT  
 CAGTGGAAATGGATCTCAACCAAGCACATATGGAGGAGACTCCTAAAAGAAAGGGGCAAAAGTGTGG  
 GAGCCTTGAAAGGGGTTGGATAAGGTTTACTACTGTGCTCACCAGGAGCAAAAGGAAGGTTCTGCCAGA  
 GACGGGCCAGAAGACTAAAGCTTCACTATAACGTGACTACAACAGATTAGTGAATCCAGATCAACTGT  
 TGAATGAAATAATGTCTATTCTTCAAAGAAGCATGTTGACTTTGTACAAAAGGTTATACACTGAAGTG  
 TCAAACACAGTCAGATTTGGGAAAGTGACAATGCAATTTGAATTAGAAGTGTGCCAGCTTCAAAAACCC  
 GATGTGGTGGGTATCAGGAGGCAGCGGCTTAAGGGCGATGCTGGGTTTACAAAAGATTAGTGAAGACA  
 TCCTATCTAGCTGCAAGGTA

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>RG232909 representing NM\_001256692  
 Red=Cloning site Green=Tags(s)

MVLEENLLFDEYHKLKIDFGLCAKPKGNKYHLQTCGSLAYAAPELIQKSYLGSEADVWSMGILLYV  
 LMCGLPFDDDNVMALYKKIMRGKYDVPKWLSPSSILLLQQLQVDPKKRISMKNLLNHPWIMQDYNYPV  
 EWQSKNPFIHLDVTELSVHHRNNRQTMEDLISLWQYDHLTATYLLLLAKKARGKPVRLRLSSFSCGQ  
 ASATPFTDIKSNWSLEDVTSADKNYVAGLIDYDWCEDDLSTGAATPRTSQFTKYWTESNGVESKSLTPA  
 LCRTTPANKLKNKENVYTPKSAVKNEEYFMFPEPKTPVKNQHKREILTPNRYTTPSKARNQCLKETPIK  
 IPVNSTGDKLMTGVISPERRCRSVELDLNQAHEETPKRKGAKVFGSLERGLDKVITVLTRSKRKGSA  
 RDPVRRLLKHYNVTTTRLVNPQQLNEIMSILPKKHVDFVQKGYTLKQQTQSDFGKVTMQFELEVCQLQKP  
 DVVGIRRQRLKGDWVYKRLVEDILSSCKV

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

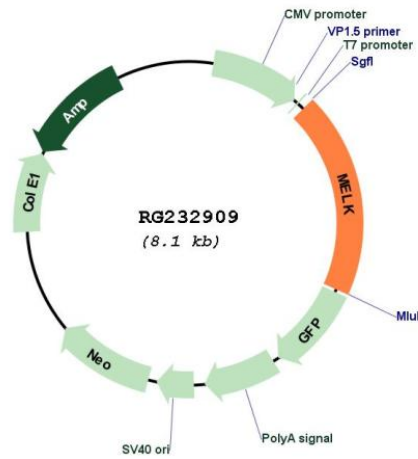
Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



|                               |   |
|-------------------------------|---|
| <b>ACCN:</b>                  | NM_001256692  |
| <b>ORF Size:</b>              | 1560 bp   |
| <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_001256692.1</a> , <a href="#">NP_001243621.1</a>   |
| <b>RefSeq Size:</b>           | 2160 bp   |
| <b>RefSeq ORF:</b>            | 1563 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] |