

## Product datasheet for **RG200224**

### Malignant T cell amplified sequence 1 (MCTS1) (NM\_014060) Human Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Malignant T cell amplified sequence 1 (MCTS1) (NM\_014060) Human Tagged ORF Clone  
**Tag:** TurboGFP  
**Symbol:** Malignant T cell amplified sequence 1  
**Synonyms:** MCT-1; MCT1  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >RG200224 representing NM\_014060  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGTTCAAGAAATTTGATGAAAAAGAAAATGTGTCCAACGCATCCAGTTGAAAACCTTCAGTTATTAAGG  
GTATTAAGAATCAATTGATAGAGCAATTTCCAGGTATTGAACCATGGCTTAATCAAATCATGCCTAAGAA  
AGATCCTGTCAAATAGTCCGATGCCATGAACATATAGAAATCCTTACAGTAAATGGAGAATTACTCTTT  
TTTAGACAAAGAGAAGGGCCTTTTATCCAACCCTAAGATTACTTACAAAATATCCTTTTATCCTGCCAC  
ACCAGCAGGTTGATAAAGGAGCCATCAAATTTGTACTCAGTGGAGCAAATATCATGTGTCCAGGCTAAC  
TTCTCCTGGAGCTAAGCTTTACCCTGCTGCACTAGATACCATTGTTGCTATCATGGCAGAAGGAAAACAG  
CATGCTCTATGTGTTGGAGTCATGAAGATGTCTGAGAAGACATTGAGAAAGTCAACAAAGGAATTGGCA  
TTGAAAATATCCATTATTTAAATGATGGGCTGTGGCATATGAAGACATATAAA

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >RG200224 representing NM\_014060  
Red=Cloning site Green=Tags(s)

MFKKFDEKENVSNCIQLKTSVIKGIKNQLIEQFPGIEPWLNQIMPKKDPVKIVRCHEHIEILTVNGELLF  
FRQREGPFYPTLRLLHKYPFILPHQQVDKGAIKFVLSGANIMCPGLTSPGAKLYPAAVDTIVAIMEAGKQ  
HALCVGVMKMSAEDIEKVNKGIGIENIHYLNDGLWHMKTYK

**TRTRPLE** - GFP Tag - V

**Restriction Sites:** SgfI-MluI



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**Cloning Scheme:**



**ACCN:** NM\_014060

**ORF Size:** 543 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).

- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
  2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
  3. Close the tube and incubate for 10 minutes at room temperature.
  4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
  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.

**RefSeq:** [NM\\_014060.3](#)

**RefSeq Size:** 943 bp

**RefSeq ORF:** 546 bp

**Locus ID:** 28985

**UniProt ID:** [Q9ULC4](#)

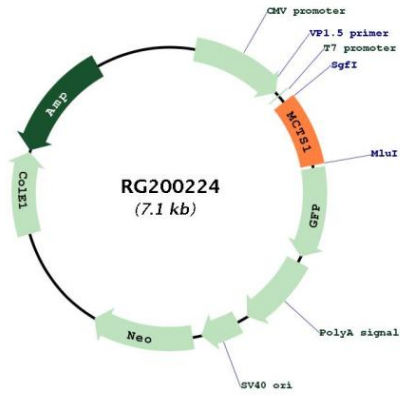
**Cytogenetics:** Xq24

**Domains:** PUA

**Protein Families:** Druggable Genome

**Gene Summary:** Anti-oncogene that plays a role in cell cycle regulation; decreases cell doubling time and anchorage-dependent growth; shortens the duration of G1 transit time and G1/S transition. When constitutively expressed, increases CDK4 and CDK6 kinases activity and CCND1/cyclin D1 protein level, as well as G1 cyclin/CDK complex formation. Involved in translation initiation; promotes recruitment of aminoacylated initiator tRNA to P site of 40S ribosomes. Can promote release of deacylated tRNA and mRNA from recycled 40S subunits following ABCE1-mediated dissociation of post-termination ribosomal complexes into subunits. Plays a role as translation enhancer; recruits the density-regulated protein/DENR and binds to the cap complex of the 5'-terminus of mRNAs, subsequently altering the mRNA translation profile; up-regulates protein levels of BCL2L2, TFDP1, MRE11, CCND1 and E2F1, while mRNA levels remains constant. Hyperactivates DNA damage signaling pathway; increased gamma-irradiation-induced phosphorylation of histone H2AX, and induces damage foci formation. Increases the overall number of chromosomal abnormalities such as larger chromosomes formation and multiples chromosomal fusions when overexpressed in gamma-irradiated cells. May play a role in promoting lymphoid tumor development: lymphoid cell lines overexpressing MCTS1 exhibit increased growth rates and display increased protection against apoptosis. May contribute to the pathogenesis and progression of breast cancer via promotion of angiogenesis through the decline of inhibitory THBS1/thrombospondin-1, and inhibition of apoptosis. Involved in the process of proteasome degradation to down-regulate Tumor suppressor p53/TP53 in breast cancer cell; Positively regulates phosphorylation of MAPK1 and MAPK3. Involved in translation initiation; promotes aminoacylated initiator tRNA to P site of 40S ribosomes. Can promote release of deacylated tRNA and mRNA from recycled 40S subunits following ABCE1-mediated dissociation of post-termination ribosomal complexes into subunits.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RG200224