

## Product datasheet for **RG211310**

### **VAR2 (NM\_020442) Human Tagged ORF Clone**

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** VAR2 (NM\_020442) Human Tagged ORF Clone  
**Tag:** TurboGFP  
**Symbol:** VAR2  
**Synonyms:** COXPD20; VALRS; VAR2L; VARSL  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >RG211310 representing NM\_020442  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCCGATCGCC

ATGCCTCATTGCTCTCGCTCTTTTCGACCACCATTTGGGGCTGAGGCACTCACGGGGCTCCCCA  
 GGTTCCTCCGTTTCTACACAGTCGGAGCCCCATGGATCTCCCATCTCCCGAGGAACCGTGAAGCCAA  
 ACAGAAGCGCTGCGAGAGAAGCAGGCGACTCTGGAGGCTGAGATAGCAGGGGAGAGCAAGTCACCTGCA  
 GAATCCATTAAGGCTGGAGGCCTAAGGAGTTAGTATTGTATGAAATCCCTACGAAACCCGGTAAAAGA  
 AAGATGTCTCTGGGCCCTGCCTCCTGCATACAGCCCCGATATGTTGAGGCTGCCTGGTACCCGTGGT  
 GGTACGAGAGGGCTTCTCAAACCAGAATATCAGGCCCGCTGCCCAAGCTACAGGGGAGACCTTTTCC  
 ATGTGTATCCACCTCCAATGTCACTGGCTCCCTGCACATTGGCCACGCACTCACGGTGGCCATACAGG  
 ATGCCCTCGTGCCTGGCACCAGGATGCGTGGGGATCAAGTGTGTGGTCCCTGGTTCAGATCATGCAGG  
 AATTGCTACACAAGCTGTGGTGGAGAAACAAGTGTGGAAGGAACGGGGAGTGAGGAGACATGAGCTGAGC  
 CGGGAGGCCTTCTTAGGGAGGTGTGGCAGTGAAGGAGGCGAAAGGTGGAGAGATCTGTGAGCAGCTGC  
 GAGCTCTGGGTGCCTCCCTGGACTGGGATCGAGAGTGTTTACCATGGATGTTGGCTCCTCAGTGGCTGT  
 GACTGAAGCTTTGTGCGGCTCTACAAGCGGGGTTGCTGTACCGGAACCATCAGCTTGTCAACTGGTCA  
 TGTGCTTAAGATCAGCCATCTCGGACATTGAGGTGGAGAACCAGGCCCTGCCTGGCCACACACAGCTTC  
 GACTGCCTGGCTGCCCAACCCCGTGTCTTTGGCCTCCTATTTTCTGTTGCCTTCCCGTGGATGGAGA  
 GCCTGATCGAGAGGTTGTGGTAGGAACCACAAGGCCAGAGACGCTGCCTGGAGATGTGGCTGTGGCCGT  
 CATCCAGACGACTCGGATACACACATCTACAGGGCGACAGCTTCGTCACCCCTTGATGGGGCAGCCTC  
 TTCCCCTCATCAGACTATGCTGTTAGCCACATGTGGGCACGGGGCAGTGAAGGTGACTCCAGCTCA  
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 CTGTGCTGAGTGAACGGGGCCTGTTCCGGGGCTCCAGAACCACCCATGGTACTGCCCATCTGCAGCCG  
 TTCTGGGATGTGATAGAATACCTGCTGAAGAACCAGTGGTTTGTCCGCTGCCAGGAAATGGGGCCCGA



GCTGCCAAGGCTGTGGAGTCGGGGGCCCTGGAGCTCAGTCCCTCCTTCCACCAGAAGAACTGGCAGCACT  
 GGTTTTCCCATATTGGGGACTGGTGTGTCTCCCGGCAGCTGTGGTGGGGCCATCAGATCCAGCCTACCT  
 GGTTGTAGAGGACCATGCGCAGGGAGAAGAGGACTGTTGGGTGGTGGGGCGGTGACAGGGCTGAGGCCAGA  
 GAGGTAGCAGCGGAACTGACAGGGAGGCCAGGGGCAGAGCTGACCCTGGAGAGGGATCCTGATGTCTAG  
 ACACATGGTTTTCTTCTGCCCTGTTCCCTTTTCTGCCCTGGGCTGGCCCAAGAGACCCAGACCTTGC  
 TCGTTTTACCCCTGTCACTTTTGAACCGGGCAGCGACCTTCTGTCTTCTGGGTGGGCCGATGGTC  
 ATGTTGGGACCCAGCTCACAGGGCAGCTGCCCTCAGCAAGGTGCTTCTTCATCCCATGGTTCGGGACA  
 GGCAGGGCCGGAAGATGAGCAAGTCCCTGGGGAATGTGCTGGACCAAGAGACATCATCAGTGGGTGGA  
 GATGCAGGTGCTGCAGGAAAAGCTGAGAAGCGGAAATTTGGACCTGCAGAGCTGGCCATTGTGGCTGCA  
 GCACAGAAAAAGGACTTTCCTCACGGGATCCCTGAGTGTGGGACAGATGCCCTGAGATTCACACTGTCT  
 CCCATGGAGTTCAGGCGGGCAGCTTGCACCTGTAGTCTCTGAGGTCCAGAGCTGCCGACATTTCTGCAA  
 CAAGATCTGGAATGCTCTTCGTTTATCTCAATGCTTTAGGGGAGAAATTTGTGCCACAGCCTGTGAG  
 GAGCTGTCTCCCTCCTCCCGATGGATGCCTGGATCCTGAGCCGCTTCCCTGGCTGCCAGGAGTGTG  
 AGCGGGGCTTCTCACCCGAGAGCTCTCGCTCGTCACTCATGCCCTGCACCACTTCTGGCTTCAAACT  
 CTGTGACGTCTACCTGGAGGCTGTGAAGCCGTGTGTGGCACTGCCCGCCCTGGGGCCCCCTCAG  
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 TCTGGCAGAGGCTGCCCGCCAGGCTGGTTCGCCCTGCCCGCAGCATCTCGGTTGCCCTACCCAG  
 CGCTGCAGCTTGGAGCACTGGCGCCAGCCAGAGCTGGAGCGGCGCTTCTCCCGGTCCAAGAGGTCTGTG  
 CAGGTGCTAAGGGCTCTCCAAGCCAGTACCAGCTCACAAAGCCCGGCCCGAGTGTGCTGCAGAGCT  
 CAGAGCCTGGGGACCAGGGCCTTTCGAGGCTTCTTGGAGCCCTGGGCACCCTGGGCTACTGTGGGGC  
 TGTGGGCTGTTACCCAGCGCAGCAGCTCCCTCCGCTGGGCCAGGCTCCACTCAGTGACACGGCT  
 CAAGTCTACATGGAGCTGCAGGGCCTGGTGGACCCGAGATCCAGTACCTCTGTAGCCGCCGAAGGT  
 ACAAGTGCAGAAGCAGCTTGTAGCCTCACAGCCAGGCCCATCAGAAGGGGAGGCAGGGACTCAGAG  
 GCAACAAAAGCTTCTTCCCTCCAGTGGAAATGTCAAACTGGACAAGGCAGCCTCTCACCTCCGGCAG  
 CTGATGGATGAGCTCCAGCCCCAGGGAGCCCGGAGCTC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>RG211310 representing NM\_020442  
 Red=Cloning site Green=Tags(s)

MPHLPLASFRPPFWGLRHSRGLPRFHSVSTQSEPHGSPISRRNREAKQKRLREKQATLEAEIAGESKSPA  
 ESIAKAWRPKELVLYEIPTKPGEKKDVSGLPLPPAYSPRYVEAAWYPWWVREGFFKPEYQARLPQATGETFS  
 MCIPPPNVTGSLHIGHALTVAIQDALVRWHRMRGDQVLWVPGSDHAGIATQAVVEKQLWKERGVRRHLS  
 REAFLREVWQWEAKGGEICEQLRALGASLDWDRECFTMDVGSVAVTEAFVRLYKAGLLYRNHQLVNWS  
 CALRSAISDIEVENRPLPGHTQLRLPGCPTPVSFLLFSVAFVVDGEPDAEVVVGTTRPETLPGDVAVAV  
 HPDDSRYLHLHGRQLRHPLMGQPLPLITDYAVQPHVGTGAVKVTPAHSPADAEMGARHGLSPLNVAEDG  
 TMTSLCGDWLQGLHRFVAREKIMSVLSEGLFRGLQNHMPVLPICSRSGDVIEWLLKNQWFVRCQEMGAR  
 AAKAVESGALELSPSFHQKNWQHWFSHIGDWCVSRQLWWGHQIPAYLVVEDHAQGEEDCWVVRSEAEAR  
 EVAAELTGRPGAELTLERDPDVLDTWFSALFPFSGALGWQETPDLARFYPLSLLLETGSDLLLFWVGRMV  
 MLGTQLTGQLPFSKVLHHPMVRDRQGRKMSKSLGNVLDPRDIISGVEMQVLQEKLRSGNLDPAELAIVAA  
 AQKKDFPHGIPCEGTDALRFTLCSHGVAQDLHLVSEVQSCRHFCKNIWNALRFILNALGEKFPVQPAE  
 ELSPSSPMDAWILSRLALAAQECERGFLTRELVLVTHALHHFWLHNLCDVYLEAVKPVLWHSRPLGPPQ  
 VLFSCADLGLRLLAPLMPFLAEELWQLPPRPGCPPAPISVAPYPSACSLHWRQPELERRFSRVQEVV  
 QVLRALQATYQLTKARPRVLLQSSEPGDQGLFEAFLEPLGTLGYCGAVGLLPPGAAAPSGWAQAPLSDTA  
 QVYMELQGLVDPQIQLPLLAARRYKLQKQLDSLARTPSEGEAGTQRQQLSSLQLELSKLDKAASHLRQ  
 LMDEPPAPGSPLEL

TRTRPLE - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_020442

**ORF Size:** 3189 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\\_020442.3](#), [NP\\_065175.3](#)

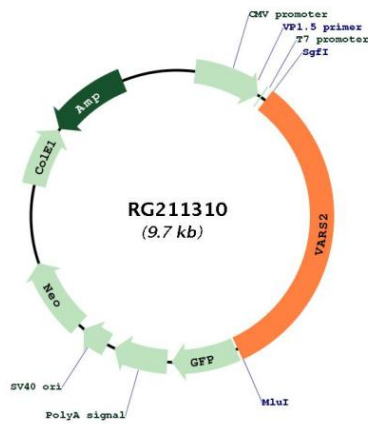
**RefSeq Size:** 4070 bp

**RefSeq ORF:** 3192 bp

**Locus ID:** 57176

**UniProt ID:** [Q5ST30](#)  
**Cytogenetics:** 6p21.33  
**Domains:** tRNA-synt\_1  
**Protein Families:** Druggable Genome, Transcription Factors  
**Protein Pathways:** Aminoacyl-tRNA biosynthesis, Valine, leucine and isoleucine biosynthesis  
**Gene Summary:** This gene encodes a mitochondrial aminoacyl-tRNA synthetase, which catalyzes the attachment of valine to tRNA(Val) for mitochondrial translation. Mutations in this gene cause combined oxidative phosphorylation deficiency-20, and are also associated with early-onset mitochondrial encephalopathies. Alternative splicing of this gene results in multiple transcript variants. [provided by RefSeq, Aug 2014]

### Product images:



Circular map for RG211310