

Product datasheet for **RG221871**

KIAA1970 (EARS2) (NM_001083614) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	KIAA1970 (EARS2) (NM_001083614) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	EARS2
Synonyms:	COXPD12; gluRS; MSE1; mtGlnRS
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG221871 representing NM_001083614
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCGGCGCTCCTGAGGAGACTGCTGCAGCGCAGAGGCCTTCGGCGGCTCTGGCCGCCCGTAGGAC
 GGCAGCGAGGCCAACCTGGGCACTGATGCCGGGTTGCGGTGCGAGTGCGGTTTCGCTCCACGCCCCACAGG
 CTTCTTGACCTGGGTGGCTCCGCACTGCCTTGTAACAACATCCTTTGCTAAGAAGTACCAGGGGAGC
 TTCATCCTGAGGCTAGAGGACACAGATCAGACTCGCGTTGTGCCTGGGCGAGCGGAGAATATTGAGGACA
 TGCTGGAGTGGCAGGCATCCCGCTGATGAGAGCCCCCGGGGGCGTCTGCTGGGCCCTACCAGCA
 ATCTCAGCGTTGGAGCTGTATGCCAGGCCACAGAAGCGCTGCTGAAGACCGGAGCTGCTTACCCTGT
 TTCTGCTACCCAGCGCTGGAGCTCCTGAAGAAGGAGGCCTTGCGAACCACCAGACGCCCGGTATG
 ACAATCGGTGCAGGAACATGAGCCAGGAGCAGGTGGCCAGAAGCTGGCCAAGGACCCCAAGCCTGCGAT
 CCGCTCCGCTGGAGCAGGTGGTCCAGCCTTCCAGGACTGGTCTATGGCTGGAATAGGCATGAAGTG
 GCCAGCGTGGAGGGAGACCCAGTCATCATGAAGAGCGACGGCTTCCACATACCACTGGCCTGCGTGG
 TGGACGACCACATGGGCATCAGCCAGTGTGCGAGGCTCTGAGTGGCTCGTCTCCACTGCCAAGCA
 CCTGCTCCTTACCAGGCCCTGGGCTGGCAGCCACCCACTTCGCCACCTGCCCTGCTCCTCAACAGG
 GATGGCAGCAAGCTCTCAAGAGGCAAGGGGACGTTTTCTGGAGCACTTGTGCTGATGGCTTCTGC
 CCGATTCTTGTGGACATCATCACTGTGGCTCAGGTTTTGCAGAGAACCAATGGGAGGACCCCT
 GCCGAGCTGATCACACAGTTCAACCTGACACAGGTCACTGTCACTCAGCCCTGCTGGACTGGAGAAG
 CTCCCAGAATTCACAGACTGCACCTCCAGCGCTGGTGGAGCAATGAGAGCCAGAGGCGCCAGCTGGTG
 GGAAGCTGCAGGTCCTTGTGGAGGAGCCTTGGTTGCCAGCTGCAAAACAGGGATGTCTCAACCCAGT
 CTACGTGGAGAGGATCCTCCTGCTGAGACAGGGTACATTTGCCGCTGCAGGACTTGGTGTCCCAAGTA
 TACTCTTACCTGTGGACTCGCCCTGCAGTAGGTGAGCAGCTGGACGCCATCTCGGAGAAGGTGGATG
 TGATTGCCAAGCGTGTGCTGGGCTTCTAGAAAGATCTAGTATGAGCTTAACTCAGGATATGCTGAATGG
 AGAACTGAAGAAGCTATCAGAAGGTCTGGAAGGCACCAAGTACAGTAATGTGATGAAACTCCTTCGGATG
 GCCCTCAGTGGACAGCAGCAAGGACCTCCTGTAGCTGAGATGATGTTGGCCTGGGACCAAGGAAGTAC
 GGAACGGATCCAGAAGGTGGTTCCAGC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG221871 representing NM_001083614
 Red=Cloning site Green=Tags(s)

MAALLRRLQLRERPSAASGRPVGRREANLGTDAVAVRVRFAPSPTGFLHLGGLRTALYNYIFAKKYQGS
 FILRLEDTDQTRVVPGAENIEDMLEWAGIPPDESPRRGGPAGPYQQSQRLELYAQATEALLKTGAAYPC
 FCSPQRLELLKKEALRNHQTPTYDNRNMSQEVAQKLAKDPKPAIRFRLEQVVPFQDLVYVGNRHEV
 ASVEGDPVIMKSDGFPTYHLACVDDHMGISHVLRGSEWLVSATKHLLEYQALGWQPPHFAHLPLLLNR
 DGSKLSKRQGDVLEHFAADGFLPDSLDDIITNCGSGFAENQMGRTLPELITQFNLTQVTHSALLDLEK
 LPEFNRLHLQRLVSNESQRRQLVGKLVVEEAFGCQLQNRDVLNPVYVERILLRQGHICRLQDLVSPV
 YSYLWTRPAVGRAQLDAISEKVDVIKRVLGLLERSMSLTQDMLNGELKKLSEGLEGTYSNVMKLLRM
 ALSGQQQGPVVAEMMLALGPKEVRERIQKVSS

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-Mlul

ACCN:	NM_001083614
ORF Size:	1569 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:	<ol style="list-style-type: none">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_001083614.2
RefSeq Size:	3979 bp
RefSeq ORF:	1572 bp
Locus ID:	124454
UniProt ID:	Q5JPH6
Cytogenetics:	16p12.2
Protein Families:	Druggable Genome
Protein Pathways:	Aminoacyl-tRNA biosynthesis, Metabolic pathways, Porphyrin and chlorophyll metabolism
Gene Summary:	This gene encodes a member of the class I family of aminoacyl-tRNA synthetases. These enzymes play a critical role in protein biosynthesis by charging tRNAs with their cognate amino acids. This protein is encoded by the nuclear genome but is likely to be imported to the mitochondrion where it is thought to catalyze the ligation of glutamate to tRNA molecules. Mutations in this gene have been associated with combined oxidative phosphorylation deficiency 12 (COXPD12). Alternative splicing results in multiple transcript variants. [provided by RefSeq, Mar 2015]