

Product datasheet for **RC221871**

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:	Myc-DDK
Symbol:	KIAA1970
Synonyms:	COXPD12; gluRS; MSE1; mtGlnRS
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RC221871 representing NM_001083614
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCGCGCTCCTGAGGAGACTGCTGCAGCGCAGAGGCCTTCGGCGGCCTCTGGCCGCCCGTAGGAC
 GGCAGGAGCCAACTGGGCACTGATGCCGGGTTGCGGTGCGAGTGCAGTTCGCTCCAGCCCCACAGG
 CTTCTTGACCTGGGTGGCTCCGCACTGCCTTGTAACAACATCTTTGCTAAGAAGTACCAGGGGAGC
 TTCATCTGAGGCTAGAGGACACAGATCAGACTCGCGTTGTGCCTGGGCGAGCGGAGAATATTGAGGACA
 TGCTGGAGTGGCAGGCATCCCGCTGATGAGAGCCCCCGGGGGCGTCTGCTGGGCCCTACCAGCA
 ATCTCAGCGTTGGAGCTGTATGCCAGGCCACAGAAGCGCTGCTGAAGACCGGAGCTGCTTACCCTGT
 TTCTGCTACCCAGCGCTGGAGCTCCTGAAGAAGGAGGCCTTCGGAACCACCAGACGCCCGGTATG
 ACAATCGGTGCAGGAACATGAGCCAGGAGCAGGTGGCCAGAAGCTGGCCAAGGACCCCAAGCCTGCGAT
 CCGCTCCGCTGGAGCAGGTGGTCCAGCCTTCCAGGACTGGTCTATGGCTGGAATAGGCATGAAGTG
 GCCAGCTGGAGGAGACCCAGTCATCATGAAGAGCGACGGCTTCCACATACCACCTGGCCTGGTGG
 TGGACGACCACATGGGCATCAGCCAGTGTGCGAGGCTCTGAGTGGCTCGTCTCCACTGCCAAGCA
 CCTGCTCCTTACCAGGCCCTGGGCTGGCAGCCACCCACTTCGCCACCTGCCCTGCTCCTCAACAGG
 GATGGCAGCAAGCTCTCAAGAGGCAAGGGGACGTTTTCTGGAGCACTTGGTCTGATGGCTTCTGC
 CCGATTCCTTGTGGACATCATCACTGTGGCTCAGGTTTTGCAGAGAACCAATGGGAGGACCCCT
 GCCGAGCTGATCACACAGTTCAACCTGACACAGGTCACTGTCACTCAGCCCTGCTGGACTGGAGAAG
 CTCCAGCAATCAACAGACTGCACCTCCAGCGCTGGTGGCAATGAGAGCCAGAGGCCAGCTGGTGG
 GGAAGCTGCAGGTCCTTGTGGAGGAGCCTTGGTTGCCAGCTGCAAAACAGGGATGTCTCAACCCAGT
 CTACGTGGAGAGGATCCTCCTGCTGAGACAGGGTCACTTTGCCGCTGCAGGACTTGGTGTCCCAAGTA
 TACTCTTACCTGTGGACTCGCCCTGCAGTAGGTGAGCAGCTGGACGCCATCTCGGAGAAGGTGGATG
 TGATTGCCAAGCGTGTGCTGGGCTTCTAGAAAGATCTAGTATGAGCTTAACTCAGGATATGCTGAATGG
 AGAACTGAAGAAGCTATCAGAAGGTCTGGAAGGCACCAAGTACAGTAATGTGATGAACTCCTTCGGATG
 GCCCTCAGTGGACAGCAGCAAGGACCTCCTGTAGCTGAGATGATTTGGCCTGGGACCAAGGAAGTAC
 GGAACGGATCCAGAAGGTGGTTCCAGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC221871 representing NM_001083614
 Red=Cloning site Green=Tags(s)

MAALLRRLQLRERPSAASGRPVGRREANLGTDAVAVRVRFAPSPGFLHLGGLRRTALYNYIFAKKYQGS
 FILRLEDTDQTRVPGAENIEDMLEWAGIPPDESPRRGGPAGPYQSSQRLELYAQATEALLKTGAAYPC
 FCSPQRLELLKKEALRNHQTPRYDNRNMSQEVAQKLAKDPKPAIRFRLEQVVPFQDLVYGWNRHEV
 ASVEGDPVIMKSDGFPTYHLACVDDHMGISHVLRGSEWLVSATKHLLEYQALGWQPPHFAHLPLLLNR
 DGSKLSKRQGDVLEHFAADGFLPDSLDDIITNCGSGFAENQMGRTPELITQFNLTQVTCHSALLDLEK
 LPEFNRLHLQRLVSNESQRRQLVGKLQVLVEEAFGCQLQNRDVLNPVYVERILLRQGHICRLQDLVSPV
 YSYLWTRPAVGRAQLDAISEKVDVIAKRVLGLLERSMSLTQDMLNGELKKLSEGLETKYSNVMKLLRM
 ALSGQQGPPVAEMMLALGPKEVRERIQKVVSS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk8040_b05.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


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:

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

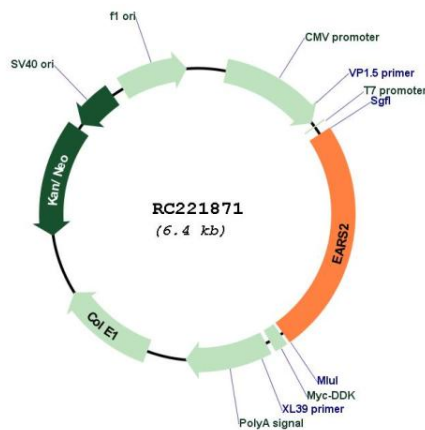
Protein Families: Druggable Genome

Protein Pathways: Aminoacyl-tRNA biosynthesis, Metabolic pathways, Porphyrin and chlorophyll metabolism

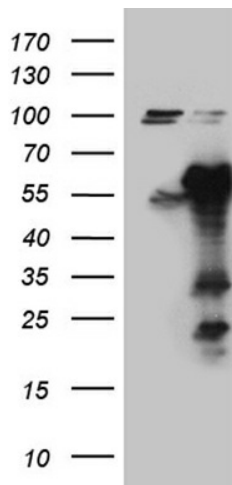
MW: 58.5 kDa

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]

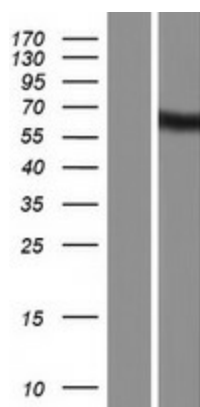
Product images:



Circular map for RC221871



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY EARS2 (Cat# RC221871, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-EARS2 (Cat# [TA810522])(1:2000). Positive lysates [LY421237] (100ug) and [LC421237] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY421237]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC221871 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).