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Product datasheet for RC213114

QRICH1 (NM_017730) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	QRICH1 (NM_017730) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	QRICH1
Synonyms:	AB-DIP; VERBRAS
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

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ORF Nucleotide Sequence:

>RC213114 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAATAATTCCCTAGAGAACACCATCTCCTTTGAAGAGTACATCCGAGTAAAGGCACGGTCTGTCCCGC
AACACAGGATGAAGGAATTTCTGGACTCACTGGCCTCTAAGGGGCCAGAAGCCCTTCAGGAGTTCCAGCA
GACAGCCACCACTACCATGGTGTACCAACAGGGTGGGAACTGCATATACACAGACAGCACTGAAGTGGCT
GGGTCTTTGCTTGAACTTGCCTGTCCAGTCACCACCAGTGTTCAGCCACAAACCCAGCAAGAACAGCAGA
TCCAGGTTCAGCAGCCGCAGCAGGTTCAGGTCCAGGTGCAGGTACAGCAGTCTCCGCAACAGGTCTCGGC
TCAGCTCTCCCCACAACTCACCGTTCACCAGCCTACTGAGCAACCCATCCAGGTCCAGGTGCAGATCCAA
GGCCAGGCACCACAGTCAGCAGCCCCCTCCATTCAGACCCCGTCTCTGCAGAGTCCCAGTCCCTCGCAGC
TGCAAGCAGCTCAGATCCAGGTGCAGCACGTGCAAGCAGCCCAGCAGATCCAGGCTGCAGAAATCCCGGA
GGAGCACATCCCACATCAGCAAATCCAGGCTCAGCTGGTGGCTGGCCAGTCTCTTGCTGGTGGTCAGCAG
ATCCAAATCCAGACCGTGGGTGCCCTTTCCCCACCACCATCCCAGCAGGGCTCACCCCGGGAAGGGGAGC
GGCGGGTTGGCACGGCCAGTGTCCTCCAACCAGTGAAGAAGCGCAAAGTGGACATGCCCATCACTGTGTC
CTACGCCATCTCAGGGCAGCCGGTGGCCACCGTGCTGGCCATTCCACAGGGCCAGCAGCAGAGTTATGTG
TCTTTGAGGCCAGACTTACTGACAGTAGACAGTGCCCACCTGTACAGTGCCACTGGGACCATTACTAGCC
CTACAGGAGAAACCTGGACCATCCCTGTTTATTCTGCCCAGCCCCGGGGGGACCCTCAGCAGCAGAGCAT
TACCCACATTGCCATTCCCCAGGAAGCCTACAACGCAGTTCACGTCAGTGGCTCACCCACAGCCCTGGCA
GCTGTTAAGCTGGAGGATGACAAGGAGAAGATGGTGGGCACCACATCTGTAGTGAAAAACTCCCATGAAG
AGGTAGTGCAGACCCTTGCAAACTCTCTCTTTCCAGCACAGTTCATGAATGGCAACATCCACATTCCAGT
GGCTGTGCAGGCTGTGGCAGGCACGTACCAGAATACGGCTCAAACTGTCCATATATGGGACCCCCAACAG
CAGCCGCAGCAGCAAACTCCCCAGGAACAGACACCACCACCACAGCAGCAGCAGCAGCAACTCCAAGTTA
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TCTGCTTCCAAATTCTTTGAAGCCAGAAGAAGGGCTTGAAGTATGGAAAAACTGGGCCCAGACCAAGAAT
GCTGAACTAGAGAAGGATGCTCAGAACAGATTGGCACCCATTGGGAGGCGCCAACTGCTGCGATTCCAGG
AAGATCTCATCTCCTCTGCTGTGGCAGAGTTGAATTATGGGCTCTGTCTAATGACACGGGAAGCTCGAAA
TGGAGAAGGTGAACCCTATGACCCAGATGTGCTCTACTATATTTTCCTGTGTATTCAAAAGTATCTTTTT
GAAAATGGAAGGGTAGATGACATTTTCTCCGATCTTTATTATGTTCGGTTCACGGAGTGGCTACATGAAG
TTCTGAAGGATGTTCAGCCCCGGGTCACTCCACTTGGCTATGTCTTGCCCAGCCACGTGACTGAGGAGAT
GCTATGGGAGTGCAAGCAGCTTGGGGCTCACTCCCCCTCCACCTTGCTGACCACCCTCATGTTCTTTAAT
ACCAAGTACTTCCTATTGAAGACAGTGGACCAGCACATGAAGCTGGCCTTCTCCAAGGTCTTGCGACAGA
CAAAGAAGAACCCCCTCTAATCCCAAGGATAAAAGCACGAGTATCCGGTACTTGAAGGCCCTTGGAATACA
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TGTCCCATCAAGCTCTATGATTTCTACCTCTTCAAATGCCCCCAGAGTGTGAAAGGCCGGAATGACACCT
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AGAGCAGATGGGACAAATGCTGACGCGGATCCTGGTGATAAGAGAAATTCAGGAGGCCATCGCAGTGGCC
AATGCAAGCACTATGCAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

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Protein Sequence:

>RC213114 protein sequence
Red=Cloning site Green=Tags(s)

MNNSLENTISFEEYIRVKARSVPQHRMKEFLDSLASKGPEALQEFQQTATTTMVYQQGGNCIYTDSTEVA
GSLLELACPVTTSVQPQTQQEQQIQVQQPQQVQVQVQVQQSPQQVSAQLSPQLTVHQPTEQPIQVQVQIQ
GQAPQSAAPSIQTPSLQSPSPSQLQAAQIQVQHVQAAQQIQAAEIPEEHIPHQQIQAQLVAGQSLAGGQQ
IQIQTVGALSPPPSQQGSPREGERRVGTASVLQPVKKRKVDMPITVSYAISGQPVATVLAIPQGQQQSYV
SLRPDLLTVDSAHLYSATGTITSPTGETWTIPVYSAQPRGDPQQQSITHIAIPQEAYNAVHVSGSPTALA
AVKLEDDKEKMVGTTSVVKNSHEEVVQTLANSLFPAQFMNGNIHIPVAVQAVAGTYQNTAQTVHIWDPQQ
QPQQQTPQEQTPPPQQQQQQLQVTCSAQTVQVAEVEPQSQPQPSPELLLPNSLKPEEGLEVWKNWAQTKN
AELEKDAQNRLAPIGRRQLLRFQEDLISSAVAELNYGLCLMTREARNGEGEPYDPDVLYYIFLCIQKYLF
ENGRVDDIFSDLYYVRFTEWLHEVLKDVQPRVTPLGYVLPSHVTEEMLWECKQLGAHSPSTLLTTLMFFN
TKYFLLKTVDQHMKLAFSKVLRQTKKNPSNPKDKSTSIRYLKALGIHQTGQKVTDDMYAEQTENPENPLR
CPIKLYDFYLFKCPQSVKGRNDTFYLTPEPVVAPNSPIWYSVQPISREQMGQMLTRILVIREIQEAIAVA
NASTMH

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6585_e04.zip

Restriction Sites: SgfI-MluI

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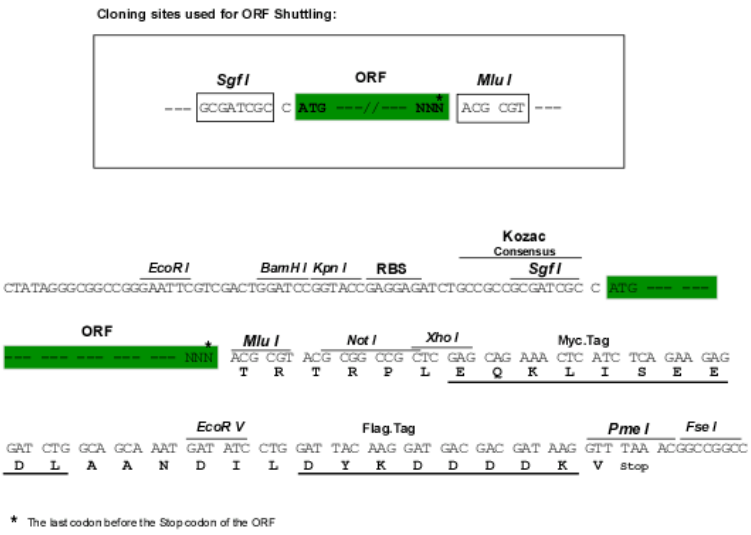
Cloning Scheme:



ACCN:	NM_017730
ORF Size:	2328 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).

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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_017730.3, NP_060200.2
RefSeq Size:	3331 bp
RefSeq ORF:	2331 bp
Locus ID:	54870
UniProt ID:	Q2TAL8
Cytogenetics:	3p21.31
Protein Families:	Druggable Genome
MW:	86.4 kDa
Gene Summary:	Transcriptional regulator that acts as a mediator of the integrated stress response (ISR) through transcriptional control of protein homeostasis under conditions of ER stress (PubMed:33384352). Controls the outcome of the unfolded protein response (UPR) which is an ER-stress response pathway (PubMed:33384352). ER stress induces QRICH1 translation by a ribosome translation re-initiation mechanism in response to EIF2S1/eIF-2-alpha phosphorylation, and stress-induced QRICH1 regulates a transcriptional program associated with protein translation, protein secretion-mediated proteotoxicity and cell death during the terminal UPR (PubMed:33384352). May cooperate with ATF4 transcription factor signaling to regulate ER homeostasis which is critical for cell viability (PubMed:33384352). Upregulates CASP3/caspase-3 activity in epithelial cells under ER stress. Central regulator of proteotoxicity associated with ER stress-mediated inflammatory diseases in the intestines and liver (PubMed:33384352). Involved in chondrocyte hypertrophy, a process required for normal longitudinal bone growth (PubMed:30281152).[UniProtKB/Swiss-Prot Function]

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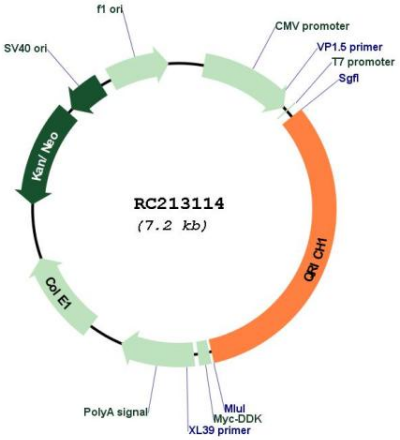
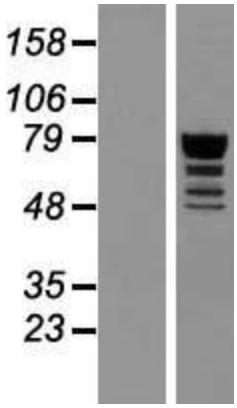
Product images:



Circular map for RC213114



Western blot validation of overexpression lysate (Cat# [LY413582]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC213114 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).

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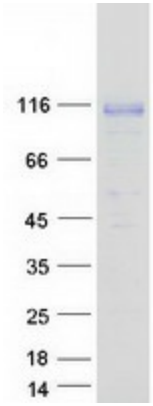

Coomassie blue staining of purified QRICH1 protein (Cat# [TP313114]). The protein was produced from HEK293T cells transfected with QRICH1 cDNA clone (Cat# RC213114) using MegaTran 2.0 (Cat# [TT210002]).

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