

## Product datasheet for **RR212860**

### Chchd4 (NM\_001013431) Rat Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Chchd4 (NM\_001013431) Rat Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** Chchd4  
**Synonyms:** MGC109542  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**ORF Nucleotide Sequence:** >RR212860 representing NM\_001013431  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGTCCTACTGCCGCAGGAAGGAAGGATCGGATCATATTTGTGACCAAAGAAGACCATGAACTCCTA  
GCAGTGCTGAGCTGGTGGCTGATGACCCCAATGATCCCTATGAAGAGCACGGGTTGATACTGCCTAATGG  
AGACATTAACGGAAATGCCCATGTCTTGGGGGAATGGCCAGCGGCCCTGTGGGGAGCAGTTCAAGTCT  
GCCTTTTCCTGCTTCCACTACAGCACAGAGGATATCAAGGGATCAGACTGTATAGACCAGTTCGGGCCA  
TGCAAGGAATGCATGCAGAAATACCCAGACCTCTATCCCAAGACGAGGAGGAGGAAGAGGAGGCAAAGCC  
AGTGGAACCAAGTGGAGGAAACGGCTGACACTAAGGCTCTGCAGCCAAAGAGCAGGGGGCAAGCTCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RR212860 representing NM\_001013431  
Red=Cloning site Green=Tags(s)

MSYCRQEGKDRIIFVTKEDHETPSSAELVADDPNDPYEEHGLILPNGDINWNCPLGGMASGPCGEQFKS  
AFSCFHYSTEDIKGSDCIDQFRAMQECMQKYPDLYPQDEEEEEAAKPEPVEETADTKASAAKEQGASS

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** Sgfl-MluI

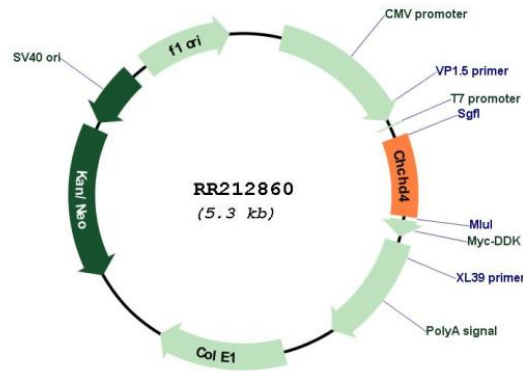


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Cloning Scheme:



Plasmid Map:



ACCN:

NM\_001013431

ORF Size:

417 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](#)

<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u><a href="#">NM_001013431.1</a></u> , <u><a href="#">NP_001013449.1</a></u>
<b>RefSeq Size:</b>	1367 bp
<b>RefSeq ORF:</b>	420 bp
<b>Locus ID:</b>	312559
<b>UniProt ID:</b>	<u><a href="#">Q5BJN5</a></u>
<b>Cytogenetics:</b>	4q34
<b>MW:</b>	15.5 kDa
<b>Gene Summary:</b>	Functions as chaperone and catalyzes the formation of disulfide bonds in substrate proteins, such as COX17, COX19 and MICU1. Required for the import and folding of small cysteine-containing proteins (small Tim) in the mitochondrial intermembrane space (IMS). Precursor proteins to be imported into the IMS are translocated in their reduced form into the mitochondria. The oxidized form of CHCHD4/MIA40 forms a transient intermolecular disulfide bridge with the reduced precursor protein, resulting in oxidation of the precursor protein that now contains an intramolecular disulfide bond and is able to undergo folding in the IMS. Reduced CHCHD4/MIA40 is then reoxidized by GFER/ERV1 via a disulfide relay system. Mediates formation of disulfide bond in MICU1 in the IMS, promoting formation of the MICU1-MICU2 heterodimer that regulates mitochondrial calcium uptake. [UniProtKB/Swiss-Prot Function]