

## Product datasheet for RC212031

### ISCU (NM\_014301) Human Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** ISCU (NM\_014301) Human Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** ISCU  
**Synonyms:** 2310020H20Rik; HML; hnifU; ISU2; NIFU; NIFUN  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >RC212031 representing NM\_014301  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGTTCTCATTGACATGAGTGTAGACCTTTCTACTCAGGTTGTTGATCATTATGAAATCCTAGAAACG  
 TGGGGTCCCTTGACAAGACATCTAAAAATGTTGGAAGTGGACTGGTGGGGCTCCAGCATGTGGTGACGT  
 AATGAAATTACAGATTCAAGTGGATGAAAAGGGAAGATTGTGGATGCTAGGTTTAAACATTTGGCTGT  
 GGTTCCGCAATTGCCTCCAGCTCATTAGCCACTGAATGGGTGAAAGGAAAGACGGTGGAGGAAGCCTTGA  
 CTATCAAAAACACAGATATCGCCAAGGAGCTCTGCCTTCTCCCGTGAAACTGCACTGCTCCATGCTGGC  
 TGAAGATGCAATCAAGGCCGCCCTGGCTGATTACAAATTGAAACAAGAACCCAAAAAGGAGAGGCAGAG  
 AAGAAA

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC212031 representing NM\_014301  
 Red=Cloning site Green=Tags(s)

MVLIDMSVDLSTQVVDHYENPRNVGSLDKTSKNVGTGLVGAPACGDMKLQIQVDEKGIYDARFKTFGC  
 GSAIASSSLATEWVGKTVEEALTIKNTDIAKELCLPPVKLHCSMLAEDAIIKAALADYKLIKQEPKKGEAE  
 KK

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/ja1453\\_e10.zip](https://cdn.origene.com/chromatograms/ja1453_e10.zip)



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**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_014301

**ORF Size:** 426 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.

**Note:** Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

**RefSeq:** [NM\\_014301.4](#)

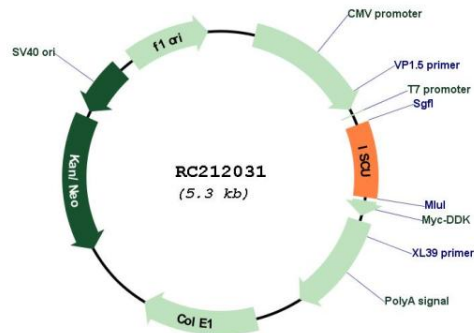
**RefSeq Size:** 1086 bp

**RefSeq ORF:** 429 bp

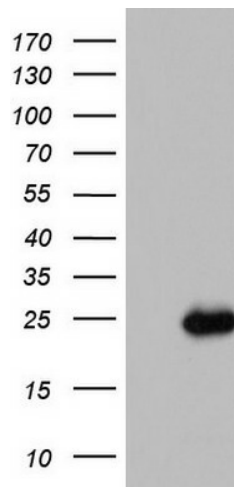
**Locus ID:** 23479  
**UniProt ID:** [Q9H1K1](#)  
**Cytogenetics:** 12q23.3  
**Domains:** NifU\_N  
**MW:** 15.1 kDa

**Gene Summary:** This gene encodes a component of the iron-sulfur (Fe-S) cluster scaffold. Fe-S clusters are cofactors that play a role in the function of a diverse set of enzymes, including those that regulate metabolism, iron homeostasis, and oxidative stress response. Alternative splicing results in transcript variants encoding different protein isoforms that localize either to the cytosol or to the mitochondrion. Mutations in this gene have been found in patients with hereditary myopathy with lactic acidosis. A disease-associated mutation in an intron may activate a cryptic splice site, resulting in the production of a splice variant encoding a putatively non-functional protein. A pseudogene of this gene is present on chromosome 1. [provided by RefSeq, Feb 2016]

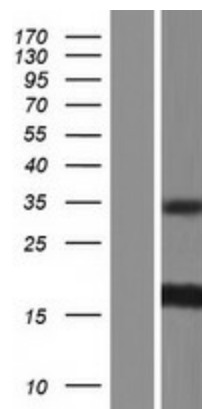
## Product images:



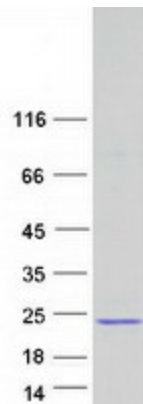
Circular map for RC212031



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY ISCU (Cat# RC212031, 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-ISCU (Cat# [TA803397]). Positive lysates [LY429414] (100ug) and [LC429414] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY415371]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC212031 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ISCU protein (Cat# [TP312031]). The protein was produced from HEK293T cells transfected with ISCU cDNA clone (Cat# RC212031) using MegaTran 2.0 (Cat# [TT210002]).