

## Product datasheet for **RC218901**

### UCP1 (NM\_021833) Human Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** UCP1 (NM\_021833) Human Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** UCP1  
**Synonyms:** SLC25A7; UCP  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >RC218901 representing NM\_021833  
**Red=Cloning site Blue=ORF Green=Tags(s)**

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGGGGGGCCTGACAGCCTCGGACGTACACCCGACCCCTGGGGTCCAGCTCTTCTCAGCTGGAATAGCGG  
CGTGCTTGGCGGACGTGATCACCTTCCCGCTGGACACGGCCAAAGTCCGGCTCCAGGTCCAAGGTGAATG  
CCCGACGTCCAGTGTTATTAGGTATAAAGGTGCCTGGGAACAATCACCGCTGTGGTAAAAACAGAAGGG  
CGGATGAAACTCTACAGCGGGCTGCCTGCGGGCTTCAGCGGCAAATCAGCTCCGCCTCTCTCAGGATCG  
GCCTCTACGACACGGTCCAGGAGTTCCTCACCGCAGGAAAGAAACAGCACCTAGTTTAGGAAGCAAGAT  
TTTAGCTGGTCTAACGACTGGAGGAGTGGCAGTATTCATTGGGCAACCCACAGAGGTCGTGAAAGTCAGA  
CTTCAAGCACAGAGCCATCTCCACGGAATCAAACCTCGCTACACGGGGACTTATAATGCGTACAGAATAA  
TAGCAACAACCGAAGGCTTGACGGGTCTTTGAAAGGGACTACTCCCAATCTGATGAGAAGTGTCATCAT  
CAATTGTACAGAGCTAGTAACATATGATCTAATGAAGGAGGCCTTTGTGAAAAACAATATTAGCAGAT  
GACGTCCCCTGCCACTTGGTGTGCGGCTCTATCGCTGGATTTGCGCAACAGCTATGTCTCCCCGGTGG  
ATGTAGTAAAAACCAGATTTATTAATTCTCCACCAGGACAGTACAAAAGTGTGCCAACTGTGCAATGAA  
AGTGTTCCTAACGAAGGACCAACGGCTTTCTCAAGGGTGGTACCTTCCTTCTGCGACTTGGATCC  
TGGAACGTCATTATGTTTGTGTGCTTTGAACAACACTGAAACGAGAACTGTCAAAGTCAAGGCAGACTATGG  
ACTGTGCCACA

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >RC218901 representing NM\_021833  
Red=Cloning site Green=Tags(s)

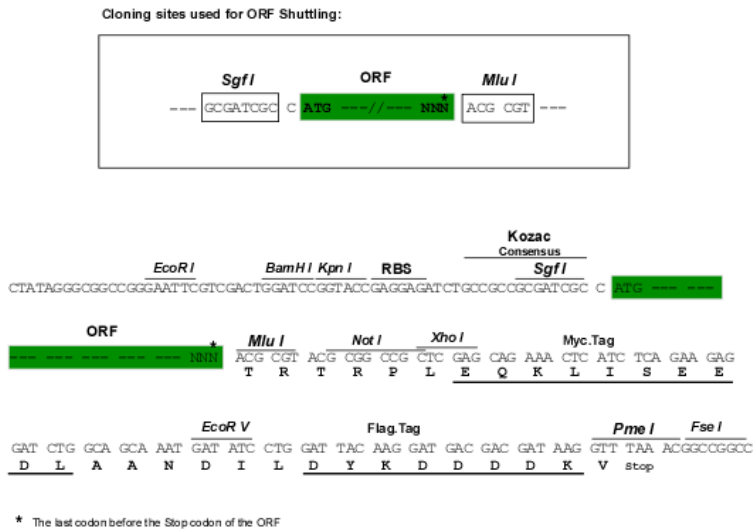
MGGLTASDVHPTLGVQLFSAGIAACLADVITFPLDTAKVRLQVQGECP TSSVIRYKGVLTITAVVKTEG  
 RMKLYSGLPAGLQRQISSASLRIGLYDTVQEF LTAGKETAPSLGSKILAGLTTGGVAVFIGQPTEVVKVR  
 LQAQSHLHG I KPRYTGTYNAYRIIATTEGLTGLWKGTTPNLMRSVIINCTELVTYDLMKEAFVKNNILAD  
 DVPCHLVSA LIAGFCATAMSSPVDVVKTRFINSPPGQYKSVPCAMKVF TNEGPTAFFKGLVPSFLRLGS  
 WNVIMFVCFEQLKRELSKSRQTMDCAT

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6117\\_g08.zip](https://cdn.origene.com/chromatograms/mk6117_g08.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_021833

**ORF Size:** 921 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\\_021833.5](#)

**RefSeq Size:** 1047 bp

**RefSeq ORF:** 924 bp

**Locus ID:** 7350

**UniProt ID:** [P25874](#)

**Cytogenetics:** 4q31.1

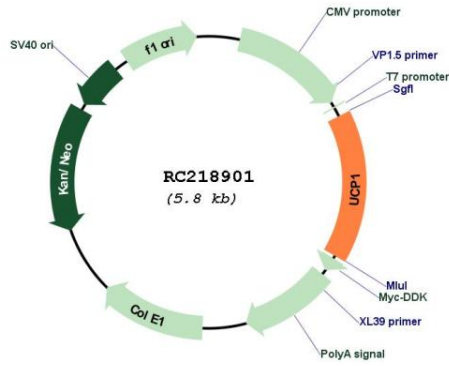
**Protein Families:** Druggable Genome

**Protein Pathways:** Huntington's disease, PPAR signaling pathway

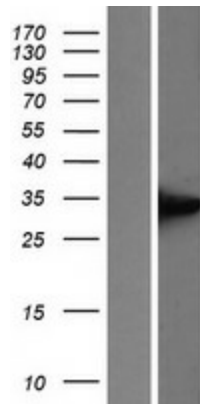
**MW:** 32.8 kDa

**Gene Summary:** Mitochondrial uncoupling proteins (UCP) are members of the family of mitochondrial anion carrier proteins (MACP). UCPs separate oxidative phosphorylation from ATP synthesis with energy dissipated as heat, also referred to as the mitochondrial proton leak. UCPs facilitate the transfer of anions from the inner to the outer mitochondrial membrane and the return transfer of protons from the outer to the inner mitochondrial membrane. They also reduce the mitochondrial membrane potential in mammalian cells. Tissue specificity occurs for the different UCPs and the exact methods of how UCPs transfer H<sup>+</sup>/OH<sup>-</sup> are not known. UCPs contain the three homologous protein domains of MACPs. This gene is expressed only in brown adipose tissue, a specialized tissue which functions to produce heat. [provided by RefSeq, Jul 2008]

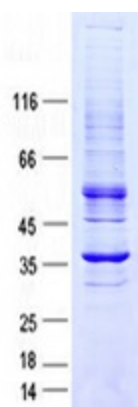
Product images:



Circular map for RC218901



Western blot validation of overexpression lysate (Cat# [LY411898]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC218901 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified UCP1 protein (Cat# [TP318901]). The protein was produced from HEK293T cells transfected with UCP1 cDNA clone (Cat# RC218901) using MegaTran 2.0 (Cat# [TT210002]).