

Product datasheet for **RC211019**

CYP7A1 (NM_000780) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CYP7A1 (NM_000780) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CYP7A1
Synonyms:	CP7A; CYP7; CYPVII
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC211019 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGATGACCACATCTTTGATTTGGGGATTGCTATAGCAGCATGCTGTTGTCTATGGCTTATTCTTGAA
 TTAGGAGAAGGCAAACGGGTGAACCACCTCTAGAGAATGGATTAATCCATACCTGGGCTGTGCTCTGCA
 ATTTGGTGCCAATCCTCTTGAGTTCCTCAGAGCAAATCAAAGGAAACATGGTCATGTTTTTACCTGCAAA
 CTAATGGGAAAATATGTCCATTTTCATCACAATCCCTTGTATACCATAAGGTGTTGTGCCACGGAAAAT
 ATTTTGATTGGAAAAATTTTCACTTTGCTACTTCTGCGAAGGCATTTGGGCACAGAAGCATTGACCCGAT
 GGATGGAAATACCACTGAAAACATAAACGACACTTTTCATCAAACCTGCAGGGCCATGCCTTGAATTCC
 CTCACGGAAAGCATGATGGAAAACCTCCAACGTATCATGAGACCTCCAGTCTCCTCTAACTCAAAGACCG
 CTGCCTGGGTGACAGAAGGGATGATTCTTTCTGCTACCGAGTGTGTTGAAGCTGGGTATTTAACTAT
 CTTTGGCAGAGATCTTACAAGGCGGGACACACAGAAAGCAGATATTCTAAACAATCTTGACAACCTCAAG
 CAATTCGACAAAAGTCTTTCCAGCCCTGGTAGCAGGCCTCCCATTACATGTTCCAGGACTGCGCACAAATG
 CCCGGGAGAAAAGTGGCAGAGAGCTTGAGGCACGAGAACCTCCAAAAGAGGGAAAAGCATCTCAGAAGTGT
 CAGCCTGCGCATGTTTCTCAATGACACTTTGTCCACCTTTGATGATCTGGAGAAGGCCAAGACACACCTC
 GTGGTCTCTGGGCATCGCAAGCAAACACCATTCCAGCGACTTTCTGGAGTTTATTTCAAATGATTAGGA
 ACCCAGAAGCAATGAAAGCAGCTACTGAAGAAGTAAAAGAACATTAGAGAATGCTGGTCAAAAAGTCAG
 CTTGGAAGGCAATCCTATTTGTTGAGTCAAGCAGAAGTGAATGACCTGCCAGTATTAGATAGTATAATC
 AAGGAATCGCTGAGGCTTTCCAGTGCCTCCCTCAACATCCGACAGCTAAGGAGGATTTCACTTTGCACC
 TTGAGGACGGTTCCTACAACATCCGAAAAGATGACATCATAGCTCTTTACCCACAGTTAATGCACCTAGA
 TCCAGAAAATCTACCCAGACCCTTTGACTTTTAAATATGATAGGTATCTTGATGAAAACGGGAAGACAAAG
 ACTACCTTCTATTGTAATGGACTCAAGTTAAAGTATTACTACATGCCCTTTGGATCGGGACTACAATAT
 GTCCTGGAAGATTGTTGCTATCCACGAAATCAAGCAATTTTTGATTCTGATGCTTTCTATTTTGAATT
 GGAGCTTATAGAGGGCAAGCTAAATGTCCACCTTTGGACCAGTCCCGGGCAGGCTTGGGCATTTTGCC
 CCATTGAATGATATTGAATTTAAATATAAATCAAGCATTTG

ACGCGTACGCGGCCGCTCGAGCAGAAAAGTCACTCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC211019 protein sequence
 Red=Cloning site Green=Tags(s)

MMTTSLIWGIAIAACCLWLILGIRRRQTGEPPLENLIPYLGICALQFGANPLEFLRANQRKHHVFTCK
 LMGKYVHFITNPLSYHKVLCGKYFDWKKFHFATSAKAFGHRSIDPMDGNTTENINDTFIKTLQGHALNS
 LTESMMENLQRIMRPPVSSNSKTAAWVTEGMYSCYRVMFEAGYLTFGRDLTRRDQKAHILNNDNFK
 QFDKVPALVAGLPIHMFRTAHNAREKLAESLRHENLQKRESISELISLRMFLNDLSTFDLEKAKTHL
 VVLWASQANTIPATFWSLQFQIRNPEAMKAATEEVKRTLENAGQKVSLEGNPICLSQAEIENDLPVLDSEI
 KESLRLSSASLNIRTAKEFDLHLEDGYSYNIKDDIIALYPQLMHLDPYIPDPLTFKYDRYLDENGKTK
 TTFYCNGLKLKYYMPFGSGATICPGRLFATHEIKQFLILMLSYFELEIEGQAKCPPLDQSRAGLGILP
 PLNDIEFKYKFKHL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6232_e05.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:



ACCN: NM_000780

ORF Size: 1512 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_000780.4](#)

RefSeq Size: 2875 bp

RefSeq ORF: 1515 bp

Locus ID: 1581

UniProt ID: [P22680](#)

Cytogenetics: 8q12.1

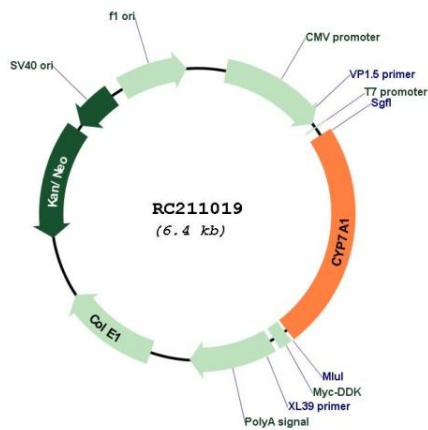
Protein Families: Druggable Genome, ES Cell Differentiation/IPS, P450, Transmembrane

Protein Pathways: Metabolic pathways, PPAR signaling pathway, Primary bile acid biosynthesis

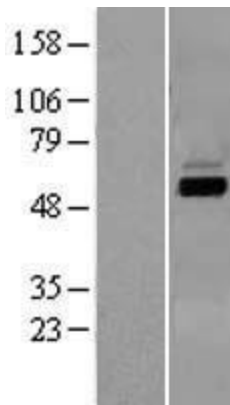
MW: 57.7 kDa

Gene Summary: This gene encodes a member of the cytochrome P450 superfamily of enzymes. The cytochrome P450 proteins are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. This endoplasmic reticulum membrane protein catalyzes the first reaction in the cholesterol catabolic pathway in the liver, which converts cholesterol to bile acids. This reaction is the rate limiting step and the major site of regulation of bile acid synthesis, which is the primary mechanism for the removal of cholesterol from the body. Polymorphisms in the promoter of this gene are associated with defects in bile acid synthesis. [provided by RefSeq, Feb 2010]

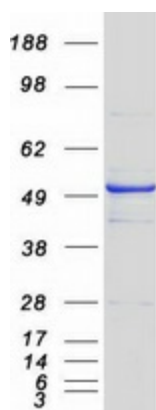
Product images:



Circular map for RC211019



Western blot validation of overexpression lysate (Cat# [LY424522]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC211019 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CYP7A1 protein (Cat# [TP311019]). The protein was produced from HEK293T cells transfected with CYP7A1 cDNA clone (Cat# RC211019) using MegaTran 2.0 (Cat# [TT210002]).