

## Product datasheet for **RC204120**

### MOCOS (NM\_017947) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	MOCOS (NM_017947) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MOCOS
Synonyms:	HMCS; MCS; MOS
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC204120 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCGGCGCGCGCGCGGAGTCAAGGGCGGGAGCTGTGGACCTTCGCGGGTTCCCGGGACCCGAGCGCAC  
 CGCGGCTAGCCTACGGCTACGGCCCGGGCAGCCTGCGCGAGCTGCGGGCGCGGAGTTACGCCCTTGGC  
 AGGAACTGTCTATCTTGACCATGCAAGTCCACCTTGTCTCCAGAGCCAGCTCGAAAGCTTCACTAGT  
 GATCTCATGGAACACTTATGGTAATCCTCACAGCCAGAATCAGCAGCAAGCTCACCCATGACACTG  
 TGGAGCAGGTGCGCTACAGAATCCTGGCGCACTCCACACCACCGCAGAAGACTACACTGTGATCTTAC  
 TGCCGGGAGCACGGTGTCTCAAAGTGGTGGCAGAGGCCCTTCCATGGGTGTCCAGGGCCAGAGAGC  
 AGTGGGAGTCGTTCTGTACCTCACCGACAGCCACACCTCCGTAGTGGGTATGAGGAACGTGACCATGG  
 CTATAAATGTCATATCCATCCCGGTGAGCCAGAGGACCTGTGGTCTGCAGAGGAACGTGGTGTTCAGC  
 CAGCAACCCAGACTGCCAGCTGCCGCATCTCTTCTGCTACCCAGCTCAGAGTAACTTTTCTGGAGTCAGA  
 TACCCCTGTCTGGATAGAAGAGGTCAAGTCTGGGCGGTTGCGCCCTGTGAGCAGCCTGGGAAGTGGT  
 TTGTGCTGCTGGATGCAGCCTCCTACGTGAGCACCTCGCCTTTGGACCTGTCAGCTCACCAGGCCGACTT  
 TGTCCCATCTCCTTCTATAAGATCTTCGGGTTTCTACAGGCCTGGGCGCTCTGCTGGTCCATAATCGT  
 GCGGCTCTCTACTGAGGAAGACCTACTTTGGAGGAGGGACAGCCTCTGCGTACCTAGCAGGAGAAGACT  
 TCTACATCCCAGGCAGTCGGTAGCTCAGAGGTTTGAAGTGGCACCATCTCATTCTTGATGTTATCGC  
 GCTAAAACATGGATTTGACACCCCTAGAGCGCCTCACAGGTGGAATGGAGAATAAAGCAGCACACCTTC  
 ACCTTGGCTCAGTATACCTACATGGCCCTGTCTCTCCAGTACCCCAATGGAGCCCTGTGGTGGCGGA  
 TTTACAGCGATTCTGAGTTCAGCAGCCCTGAGGTTCAAGGCCCCGATCATCAATTTAATGTGCTGGATGA  
 CAAAGGGAACATCATTGGTTACTCCAGGTGGACAAAATGGCCAGTCTTTACAACATCCACCTGCCAACT  
 GGCTGTTCTGTAACTGGGCGCTGCCAGAGGACCTGGGCATAGCAACGAGATGGTCAAGGAAGCATT  
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 CACTCATCAGGGGACTGGCCTGTCCCTCAGGCCATGCTGACACCGGGGAGACTGGAGCCCCATCAGCAG  
 ACAGCCAGGCTGATGTTAATCTGCTGTCATGGGCGAGCTAGCCTCTCGCCTCAGGAAGATGCCCTCAC  
 AGGCTCCAGGTTTGAACAACCTGCTACTGTGAATGCTGTGCCTGTGGCCCCACCTGTGTGATGTC  
 GCCAGAACCAGCCGACTCCTTCAGAGAAAGCTGCAGGAGTCTGGAGGGGGCCCTTGGGCCACATGTTG  
 TCACTAACCTTTATCTCTATCCAATCAAATCCTGTGCTGCAATTTGAGGTGACCAGGTGGCCTGTAGGAAA  
 CCAAGGGCTGCTATATGACCGGAGCTGGATGGTTGTGAATCACAATGGTGTGCTGAGTCAGAAGCAG  
 GAACCCCGGCTCTGCCTGATCCAGCCCTTCATCGACTTGGCGCAAAGGATCATGGTTCATCAAGCCAAAAG  
 GGATGGAGCCTATAGAGGTGCCTCTTGAGGAAAATAGTGAACGGACTCAGATTCGCCAAAGCAGGGTCTG  
 TGCTGACAGAGTAAGTACTTATGATTGTGGAGAAAAATTTCAAGCTGGTTGTCAACATTTTTGGCCGT  
 CCTTGTCAATTTGATCAACAAAGTTCAAACCTCAAAGGAATGCAAGAAGAAACATGGAAAAGATCAAC  
 TTCCTGGTACAATGGCCACCCTTCTCTGGTGAATGAGGCACAGTATCTGCTGATCAACACATCCAGTAT  
 TTTGAACTTCACCGCAACTAAACACCAGTGTGAGAATGGAAAGGAGGAATTATCTCACTGAAGGAT  
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 AGATTTCAATTGGCTCTTTGCGTTTCCAGGTTTTGGGCGCTTGTACAGATGCCAGATGATTTGCATCGA  
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 TTTGGCATGTACCTGATGCATGCATCATTGGATTTATCTCCCATGTTTCTGTCTGTAGGATCTCAGG  
 TGCTCCCTGTGTTGAAAGAGAATGTGGAAGTTCATGATTTACCTGCATCTGAGAAACACCAGGATGTTAC  
 CTCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC204120 protein sequence  
 Red=Cloning site Green=Tags(s)

MAGAAAESGRELWTFAGSRDPSAPRLAYGYGPGSLRELRAREFSRLAGTVYLDHAGATLFSQSQLESFTS  
 DLMENTYGNPHSQNISSKLTHTDVEQVRYRILAHFHTTAEDYTVIFTAGSTAALKLVAEAFPWVSQGPES  
 SGRSRFCYLTDSHTSVVGMNRVNTMAINVISIPVRPEDLWSAEERGASASNPDCQLPHLFCYPAQSNFSGVR  
 YPLSWIEEVKSGRLRPVSTPGKWFVLLDAASYVSTSPDLDSAHQADFVPIISFYKIFGFPTGLGALLVHNR  
 AAPLLRKYTFGGGTASAYLAGEDFYIPRQSVARFEDGTISFLDVIALKHGFDTLERLTGGMENIKQHTF  
 TLAQYTYMALSSLQYPNGAPVVRIYSDSEFSSPEVQGPINFNVLDDKGNIIIGYSQVDMASLYNIHLRT  
 GCFCNTGACQRHLGISNEMVRKHFAQGHVCGDNMDLIDGQPTGSVRISFGYMSTLDDVQAFRLRIDTRL  
 HSSGDWPVPAHADTGETGAPSADSQADVIPAVMGRRSLSPQEDALTGSRVWNSSTVNAVVPAPPVCDV  
 ARTQPTPSEKAAGVLEGALGPHVVTNLVLYPIKSCAAFEVTRWPVGNQGLLYDRSWMVNVHNGVCLSQKQ  
 EPRLCLIQPFIDLQRIMVIKAKGMEPIEVPLENSERTQIRQSRVCADRVSTYDCGEKISSWLSTFFGR  
 PCHLIKQSSNSQRNAKKKHGKDQLPGTMATLSLVNEAQYLLINTSSILELHRQLNTSDENGKEELSLKD  
 LSLRFRANIIINGKRAFEEKWEIISIGSLRFQVLGPCHRCQMICIDQQTGQRNQHVQKLSERETKVN  
 FGYMLMHASLDLSSPCFLSVGSQVLPVLKENVEGHDLPASEKHQDVTS

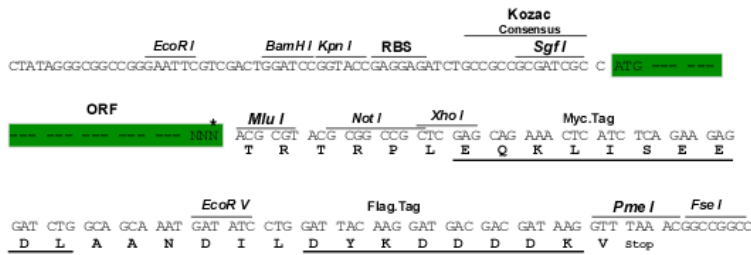
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: [https://cdn.origene.com/chromatograms/mk6690\\_a03.zip](https://cdn.origene.com/chromatograms/mk6690_a03.zip)

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

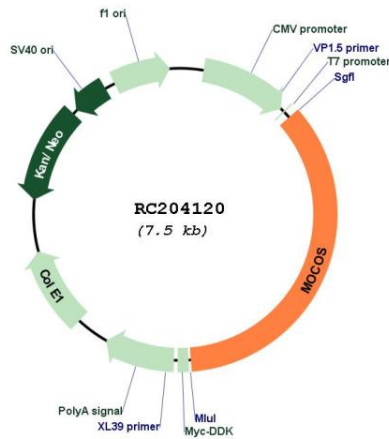
ACCN: NM\_017947

<b>ORF Size:</b>	2664 bp
<b>OTI Disclaimer:</b>	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<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>	<a href="#">NM_017947.3</a>
<b>RefSeq Size:</b>	2747 bp
<b>RefSeq ORF:</b>	2667 bp
<b>Locus ID:</b>	55034
<b>UniProt ID:</b>	<a href="#">Q96EN8</a>
<b>Cytogenetics:</b>	18q12.2
<b>MW:</b>	98.2 kDa

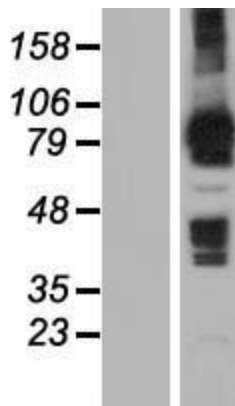
**Gene Summary:**

This gene encodes an enzyme that sulfurates the molybdenum cofactor which is required for activation of the xanthine dehydrogenase (XDH) and aldehyde oxidase (AO) enzymes. XDH catalyzes the conversion of hypoxanthine to uric acid via xanthine, as well as the conversion of allopurinol to oxypurinol, and pyrazinamide to 5-hydroxy pyrazinamide. Mutations in this gene cause the metabolic disorder classical xanthinuria type II which is characterized by the loss of XDH/XO and AO enzyme activity, decreased levels of uric acid in the urine, increased levels of xanthine and hypoxanthine in the serum and urine, formation of xanthine stones in the urinary tract, and myositis due to tissue deposition of xanthine. [provided by RefSeq, Apr 2017]

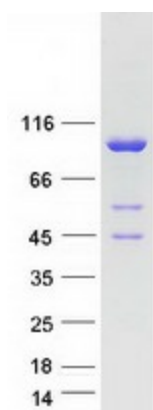
**Product images:**



Circular map for RC204120



Western blot validation of overexpression lysate (Cat# [LY413431]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204120 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MOCOS protein (Cat# [TP304120]). The protein was produced from HEK293T cells transfected with MOCOS cDNA clone (Cat# RC204120) using MegaTran 2.0 (Cat# [TT210002]).