

Product datasheet for **RC204035**

NOP53 (NM_015710) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	NOP53 (NM_015710) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	NOP53
Synonyms:	GLTSCR2; PICT-1; PICT1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC204035 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCGGCAGGAGCAGTGGCGTTGGTGGGAAGCGCAGCTCGAAAAGCGATGCCGATTCTGGTTTCCTGG
 GGCTGCGGCCCACTTCGGTGGACCCAGCGCTGAGCGGGCGGCGGAGGCCAAGAAATAAGAAGCGGGG
 CTGGCGGCGGCTTGTCTAGGAGCCGCTGGGGCTGGAGTTGACCAAGTTCCTGGAAGACGTGCGGCTACAG
 GAGCGCACGAGCGGTGGCTTGTGTGAGAGGCCCAATGAAAACTCTTCTGAGACACTGGCTCCA
 AGGAAAAAGGGCTGACAAAGAAGAGAACCAAGTCCAGAAGAAGTCACTGCTTCTCAAGAAACCCCTTCG
 GGTTGACCTCATCTCGAGAACATCCAAAGTCCCTGCCCAAGACGTCTCGCCACCAGGTCCCC
 AACGCCAAGAAGCTCAGGCGGAAGGAGCAGCTATGGGAGAAGCTGGCCAAGCAGGCGGAGCTGCCCGGG
 AGGTGCGCAGGGCCAGGCCCGGCTCTCAACCCTTCTGCAACAAGGGCCAAGCCGGGGCCAGGACAC
 CGTAGAGCGGCCCTTCTACGACCTCTGGGCTCAGACAACCCCTGGACAGGCCGTTGGTTGGCCAGGAT
 GAGTTTTCTGAGCAGACCAAGAAGAAAGAGTGAAGCGGCCAGCACGCTGCACACCAAGCCGTCCC
 AGGCGCCCGCGTGGAGGTGGCGCTGCCGAGCTTCTACAATCCATCCTTTGAAGACCACAGACCT
 GCTCTCAGCGGCCACGAGGTGGAGTTGCAGCGGCAGAAGGAGGCGGAGAAGCTGGAGCGGCAGCTGGCC
 CTGCCCCGCCACGAGCAGGCCGCCACCCAGGAGTCCACATTCCAGGAGCTGTGCGAGGGGCTGCTGGAGG
 AGTCGGATGGTGAAGGGGAGCCAGGCCAGGGCGAGGGGCCGAGGCTGGGATGCCGAGGTCTGTCCAC
 GCCCGCCCGCTGGCCACCACAGAGAAGAAGACGAGCAGCAGCGGCGGGGAGAAGGCTGTGCACAGG
 CTGCGGGTACAGCAGGCCGCTTGGCGGCCGCCGCTCCGGCACAGGAGCTGTTCCGGCTGCGCGGGA
 TCAAGGCCAGGTGGCCCTGAGGCTGGCGGAGCTGGCGCGGCGGCGGAGGCGGCGGCGGCGGCGGGA
 GGCTGAGGCTGACAAGCCCCGAAGGCTGGGACGGCTCAAGTACCAGGCACCTGACATCGACGTGCAGCTG
 AGCTCGGAGCTGACAGACTCGCTCAGGACCTGAAGCCCAGGGCAACATCCTTCGAGACCGGTTCAAGA
 GCTTCCAGAGGAGGAATATGATCGAGCCTCGAGAGAGAGCAAGTTCAAACGCAAGTACAAGGTGAAGCT
 GGTGGAGAAGCGGGCGTCCGTGAGATCCAGTTG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC204035 protein sequence
 Red=Cloning site Green=Tags(s)

MAAGSGVGGKRSSKSDADSGFLGLRPTSDPALRRRRRGPRNKKRGWRRLAQEPLGLEVDQFLEDVRLQ
 ERTSGLLSEAPNEKLFFVDTGSKEKGLTKKRTKVQKSLLKKPLRVDLILENTSKVPAPKDVLAHQVP
 NAKKLRRKEQLWEKLAKQELPREVRAQARLLNPSATRAKPGPQDTPVERPFYDLWASDNPLDRPLVGQD
 EFFLEQTKKKGVKPARLHTKPSQAPAVEVAPAGASYNPSFEDHQTLSSAAHEVELQRQKEAEKLERQLA
 LPATEQAATQESTFQELCEGLLEESDGEPEGQGEPEAGDAEVCPTPARLATTEKKTEQQRREKAVHR
 LRVQQAALRAARLRHQELFRLRGIKAQVALRLAELARRRRRRQARREAEADKPRRLGRLKYQAPDIDVQL
 SSELTDLSLRTLKPEGNLRDRFKSFQRRNMIEPRERAKFKRKYVKLVKRAFREIQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6423_d07.zip

Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN: NM_015710

ORF Size: 1434 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_015710.3](#), [NP_056525.1](#)

RefSeq Size: 1523 bp

RefSeq ORF: 1437 bp

Locus ID: 29997

UniProt ID: [Q9NZM5](#)

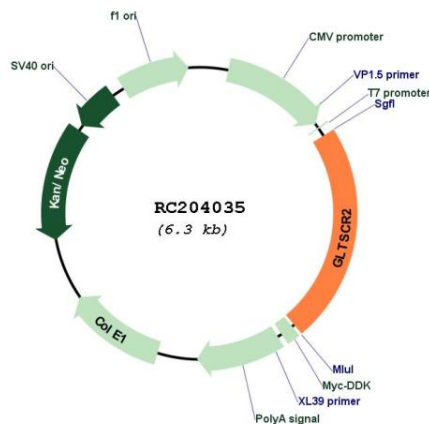
Cytogenetics: 19q13.33

Protein Families: Druggable Genome

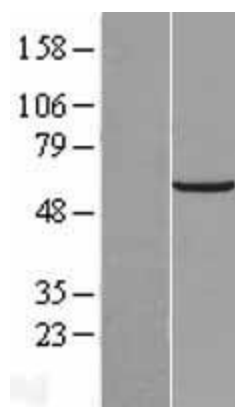
MW: 54.4 kDa

Gene Summary: Nucleolar protein which is involved in the integration of the 5S RNP into the ribosomal large subunit during ribosome biogenesis (PubMed:24120868). In ribosome biogenesis, may also play a role in rRNA transcription (PubMed:27729611). Also functions as a nucleolar sensor that regulates the activation of p53/TP53 in response to ribosome biogenesis perturbation, DNA damage and other stress conditions (PubMed:21741933, PubMed:24120868, PubMed:27829214). DNA damage or perturbation of ribosome biogenesis disrupt the interaction between NOP53 and RPL11 allowing RPL11 transport to the nucleoplasm where it can inhibit MDM2 and allow p53/TP53 activation (PubMed:24120868, PubMed:27829214). It may also positively regulate the function of p53/TP53 in cell cycle arrest and apoptosis through direct interaction, preventing its MDM2-dependent ubiquitin-mediated proteasomal degradation (PubMed:22522597). Originally identified as a tumor suppressor, it may also play a role in cell proliferation and apoptosis by positively regulating the stability of PTEN, thereby antagonizing the PI3K-AKT/PKB signaling pathway (PubMed:15355975, PubMed:16971513, PubMed:27729611). May also inhibit cell proliferation and increase apoptosis through its interaction with NF2 (PubMed:21167305). May negatively regulate NPM1 by regulating its nucleoplasmic localization, oligomerization and ubiquitin-mediated proteasomal degradation (PubMed:25818168). Thereby, may prevent NPM1 interaction with MYC and negatively regulate transcription mediated by the MYC-NPM1 complex (PubMed:25956029). May also regulate cellular aerobic respiration (PubMed:24556985). In the cellular response to viral infection, may play a role in the attenuation of interferon-beta through the inhibition of DDX58/RIG-1 (PubMed:27824081).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RC204035



Western blot validation of overexpression lysate (Cat# [LY414399]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204035 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).