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Product datasheet for RC200003

p53 (TP53) (NM_000546) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	p53 (TP53) (NM_000546) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	p53
Synonyms:	BCC7; BMFS5; LFS1; P53; TRP53
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC200003 representing NM_000546.
Blue=ORF Red=Cloning site Green=Tag(s)

GCTCGTTTAGTGAACCGTCAGAATTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGGAGGAGCCGCAGTCAGATCCTAGCGTCGAGCCCCCTCTGAGTCAGGAAACATTTTCAGACCTATGG
AAACTACTTCCTGAAAACAACGTTCTGTCCCCCTTGCCGTCCCAAGCAATGGATGATTTGATGCTGTCC
CCGGACGATATTGAACAATGGTTCACTGAAGACCCAGGTCCAGATGAAGCTCCCAGAATGCCAGAGGCT
GCTCCCCCCGTGGCCCCTGCACCAGCAGCTCCTACACCGGCGGCCCCTGCACCAGCCCCCTCCTGGCCC
CTGTCATCTTCTGTCCCTTCCCAGAAAACCTACCAGGGCAGCTACGGTTTCCGTCTGGGCTTCTTGCAT
TCTGGGACAGCCAAGTCTGTGACTTGCACGTACTCCCCTGCCCTCAACAAGATGTTTTGCCAACTGGCC
AAGACCTGCCCTGTGCAGCTGTGGGTTGATTCCACACCCCCGCCCGGCACCCGCGTCCGCGCCATGGCC
ATCTACAAGCAGTCACAGCACATGACGGAGGTTGTGAGGCGCTGCCCCCACCATGAGCGCTGCTCAGAT
AGCGATGGTCTGGCCCCTCCTCAGCATCTTATCCGAGTGGAAGGAAATTTGCGTGTGGAGTATTTGGAT
GACAGAAACACTTTTCGACATAGTGTGGTGGTGCCCTATGAGCCGCCTGAGGTTGGCTCTGACTGTACC
ACCATCCACTACAACTACATGTGTAACAGTTCCTGCATGGGCGGCATGAACCGGAGGCCCATCCTCACC
ATCATCACACTGGAAGACTCCAGTGGTAATCTACTGGGACGGAACAGCTTTGAGGTGCGTGTTTGTGCC
TGTCCTGGGAGAGACCGGCGCACAGAGGAAGAGAATCTCCGCAAGAAAGGGGAGCCTCACCACGAGCTG
CCCCCAGGGAGCACTAAGCGAGCACTGCCCAACAACACCAGCTCCTCTCCCCAGCCAAAGAAGAAACCA
CTGGATGGAGAATATTTCACCCTTCAGATCCGTGGGCGTGAGCGCTTCGAGATGTTCCGAGAGCTGAAT
GAGGCCTTGGAACTCAAGGATGCCCAGGCTGGGAAGGAGCCAGGGGGGAGCAGGGCTCACTCCAGCCAC
CTGAAGTCCAAAAAGGGTCAGTCTACCTCCCGCCATAAAAAACTCATGTTCAAGACAGAAGGGCCTGAC
TCAGAC
ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGAT
TACAAGGATGACGACGATAAGGTTTAAACGGCCGGC

Protein Sequence:

>Peptide sequence encoded by RC200003
Blue=ORF Red=Cloning site Green=Tag(s)

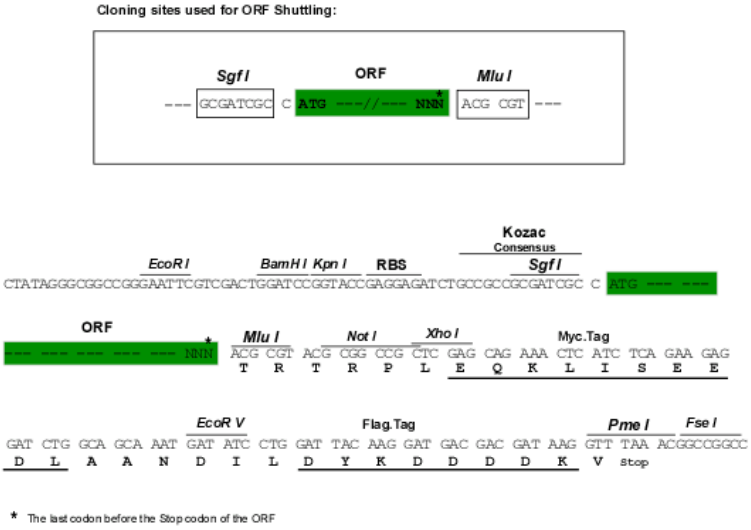
MEEPQSDPSVEPPLSQETFSDLWKLLPENNVLSPLPSQAMDDLMLSPDDIEQWFTEDPGPDEAPRMPEA
APPVAPAPAAPTPAAPAPAPSWPLSSSVPSQKTYQGSYGFRLGFLHSGTAKSVTCTYSPALNKMFCQLA
KTCPVQLWVDSTPPPGTRVRAMAIYKQSQHMTEVVRRCPHHERCSDSDGLAPPQHLIRVEGNLRVEYLD
DRNTFRHSVVVPYEPPEVGSDCTTIHYNYMCNSSCMGGMNRRPILTIITLEDSSGNLLGRNSFEVRVCA
CPGRDRRTEEENLRKKGEPHHELPPGSTKRALPNNTSSSPQPKKKPLDGEYFTLQIRGRERFEMFRELN
EALELKDAQAGKEPGGSRAHSSHLKSKKGQSTSRHKKLMFKTEGPDSD
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Recombinant protein using RC200003 also available, TP300003

Chromatograms: https://cdn.origene.com/chromatograms/mg5236_c02.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_000546

ORF Size: 1179 bp

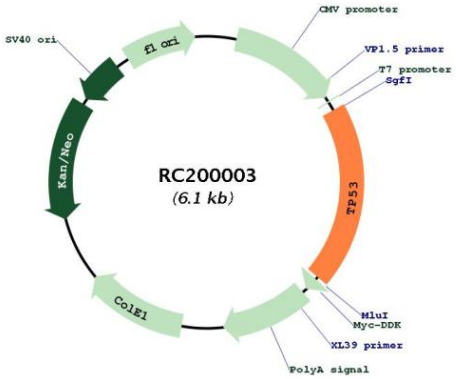
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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.

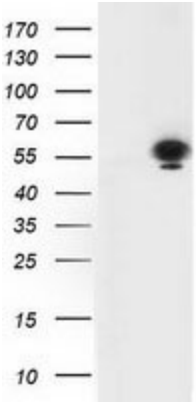
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

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_000546.6
RefSeq Size:	2591 bp
RefSeq ORF:	1182 bp
Locus ID:	7157
UniProt ID:	P04637
Cytogenetics:	17p13.1
Domains:	P53
Protein Families:	Druggable Genome, Stem cell - Pluripotency, Transcription Factors
Protein Pathways:	Amyotrophic lateral sclerosis (ALS), Apoptosis, Basal cell carcinoma, Bladder cancer, Cell cycle, Chronic myeloid leukemia, Colorectal cancer, Endometrial cancer, Glioma, Huntington's disease, MAPK signaling pathway, Melanoma, Neurotrophin signaling pathway, Non-small cell lung cancer, p53 signaling pathway, Pancreatic cancer, Pathways in cancer, Prostate cancer, Small cell lung cancer, Thyroid cancer, Wnt signaling pathway
MW:	43.7 kDa
Gene Summary:	This gene encodes a tumor suppressor protein containing transcriptional activation, DNA binding, and oligomerization domains. The encoded protein responds to diverse cellular stresses to regulate expression of target genes, thereby inducing cell cycle arrest, apoptosis, senescence, DNA repair, or changes in metabolism. Mutations in this gene are associated with a variety of human cancers, including hereditary cancers such as Li-Fraumeni syndrome. Alternative splicing of this gene and the use of alternate promoters result in multiple transcript variants and isoforms. Additional isoforms have also been shown to result from the use of alternate translation initiation codons from identical transcript variants (PMIDs: 12032546, 20937277). [provided by RefSeq, Dec 2016]

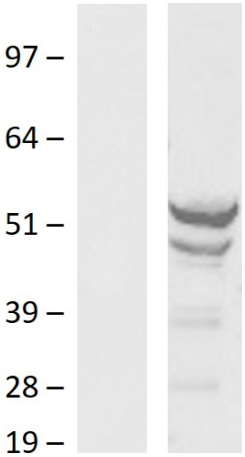
Product images:



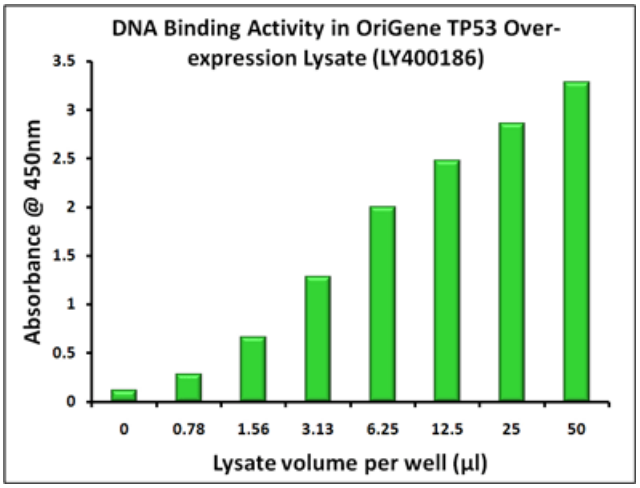
Circular map for RC200003



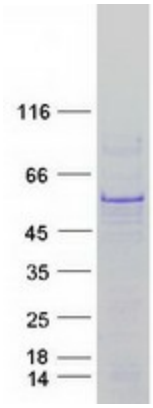
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY TP53 (Cat# RC200003, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-TP53 (Cat# [TA502870]). Positive lysates [LY400186] (100ug) and [LC400186] (20ug) can be purchased separately from OriGene.



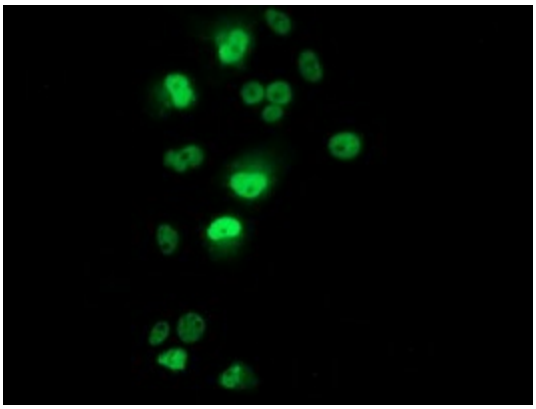
Western blot validation of overexpression lysate (Cat# [LY400186]) using anti-DDK antibody (Cat# [TA592569]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC200003 using transfection reagent PEI.



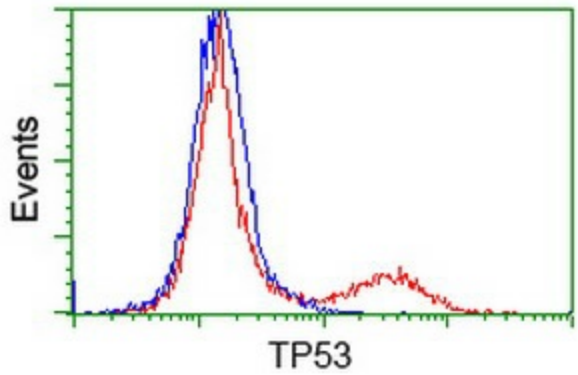
TP53 activity in the over-expression lysate ([LY400186]) was measured in a colorimetric DNA-binding assay. Double-stranded oligonucleotide containing the p53 consensus DNA-binding sequence was incubated with dilutions of the over-expression lysate and TP53 bound to the oligo was captured onto the surface of a microtiter plate. After washing, bound TP53 was detected with an anti-p53 primary antibody followed by an HRP-labeled secondary antibody. After initial color development, the reaction was quenched and the color intensity was measured at 450nm. Overexpression cell lysates are prepared from HEK293T cells transfected with RC200003 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified TP53 protein (Cat# [TP300003]). The protein was produced from HEK293T cells transfected with TP53 cDNA clone (Cat# RC200003) using MegaTran 2.0 (Cat# [TT210002]).



Anti-TP53 mouse monoclonal antibody ([TA502870]) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY TP53 (RC200003).



HEK293T cells transfected with either RC200003 overexpress plasmid (Red) or empty vector control plasmid (Blue) were immunostained by anti-TP53 antibody ([TA502870]), and then analyzed by flow cytometry.