OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for SC322987

p53 (TP53) (NM_001126114) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	p53 (TP53) (NM_001126114) Human Untagged Clone
Tag:	Tag Free
Symbol:	p53
Synonyms:	BCC7; BMFS5; LFS1; P53; TRP53
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Restriction Sites:	SgfI-MluI
ACCN:	NM_001126114
Insert Size:	1026 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
OTI Annotation:	This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
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_001126114.2

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RefSeq Size:	2724 bp
RefSeq ORF:	1026 bp
Locus ID:	7157
UniProt ID:	P04637
Cytogenetics:	17p13.1
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:	37.8 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] Transcript Variant: This variant (3) contains an additional exon in the 3' coding region, resulting in an alternate 3' coding region and 3' UTR, compared to variant 1. This variant can initiate translation from two in-frame AUG start codons. The isoform represented in this variant (b, also known as p53beta) results from translation initiation at the upstream start codon. It has a shorter and distinct C-terminus, compared to isoform a. CCDS Note: This CCDS ID represents the p53beta isoform described in PMIDs: 16131611, 16601753 and 18289041. This variant is supported by the transcript DQ186648.1. It should be noted that this transcript is predicted to undergo nonsense-mediated mRNA decay (NMD). However, the protein is represented because it was detected endogenously in PMID:16131611 using an antibody specific for the distinct C-terminus of this isoform. In addition, experiments in PMID:17694537 indicate that this gene may be somewhat less sensitive to NMD. A contributing factor is the presence of a ubiquitination domain in the C-terminus of the full-length protein, which makes the protein less stable under non-stress conditions. C-terminally truncated proteins that lack the ubiquitination domain, such as this isoform, are therefore more stable. NMD inhibition experiments in the same study show that the majority of NMD transcripts do indeed undergo NMD, but some low level of NMD escape, combined with the increased stability of C-terminally truncated isoforms, allows for the expression of such isoforms.

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