

## Product datasheet for **SC300006**

### p16INK4A (CDKN2A) (NM\_000077) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	p16INK4A (CDKN2A) (NM_000077) Human Untagged Clone
Tag:	Tag Free
Symbol:	p16INK4A
Synonyms:	ARF; CDK4I; CDKN2; CMM2; INK4; INK4A; MLM; MTS-1; MTS1; P14; P14ARF; P16; P16-INK4A; P16INK4; P16INK4A; P19; P19ARF; TP16
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	<p>&gt;OriGene sequence for NM_000077 edited</p> <p>AGGGGCTGGCTGGTCACCAGAGGGTGGGGCGGACCGCTGCGCTCGGCGGCTGCGGAGAG          GGGGAGAGCAGGCAGCGGGCGGGGAGCAGCATGGAGCCGGCGGGGAGCAGCATG          GAGCCTTCGGCTGACTGGCTGGCCACGGCCGCGCCCGGGGTGCGGTAGAGGAGGTGCGG          GCGCTGCTGGAGGCGGGGCGCTGCCAACGCACCGAATAGTTACGGTCGGAGGCCGATC          CAGGTCATGATGATGGGCAGCGCCGAGTGCGGAGCTGCTGCTGCTCCACGGCGCGGAG          CCCAACTGCGCCGACCCGCCACTCTCACCCGACCCGTGCACGACGCTGCCCGGGAGGGC          TTCCTGGACACGCTGGTGGTGTGCACCGGGCCGGGGCGCGGCTGGACGTGCGCGATGCC          TGGGGCCGTCTGCCCCTGGACCTGGCTGAGGAGCTGGGCCATCGCGATGTGCGACGGTAC          CTGCGCGCGGCTGCGGGGGGCACCAGAGGCAGTAACCATGCCCGCATAGATGCCGCGGAA          GGTCCCTCAGACATCCCCGATTGAAAGAACCAGAGAGGCTCTGAGACTCGACT</p>
5' Read Nucleotide Sequence:	<p>&gt;OriGene 5' read for NM_000077 unedited</p> <p>GTGGGGCGGACCGCTGCGCTCGCGGGCTGCGGAGAGGGGAGAGCAGGCAGCGGGCGGC          GGGGAGCAGCATGGAGCCGGCGGGGAGCAGCATGGAGCCTTCGGCTGACTGGCTGGC          CACGGCCGCGCCCGGGTGGGTAGAGGAGGTGCGGGCGCTGCTGGAGGCGGGGCGCT          GCCCAACGCACCGAATAGTTACGGTCGGAGGCCGATCCAGGTATGATGATGGGCAGCGC          CCGAGTGGCGGAGCTGCTGCTGCTCCACGGCGCGGAGCCCACTGCGCCGACCCCGCCAC          TCTCACCCGACCCGTGCACGACGCTGCCGGGAGGGCTTCTGGACACGCTGGTGGTGTCT          GCACCGGGCCGGGGCGCGCTGGACGTGCGCGATGCCTGGGGCCGTCTGCCCGTGGACCT          GGCTGAGGAGCTGGGCCATCGCGATGTGCGACGTAACCTGCGCGCGGCTGCGGGGGGCAC          CAGAGGCAGTAACCATGCCCGCATAGATGCCGCGGAAGGTCCCTCAGACATCCCCGATTG          AAAGAACCAGAGAGGCTCTGAGACTCGACTCTAGATTGCGGCCGCGGTATAGCTGTTTC          CTGAACAGATCCCGGGTGGCATCCCTGTGACCCCTCCCAAGTGCTCTCTGGCCCTGGA          AGTTGCCACTCCAGTGCCCAACGACCTTGTCTAATAAAATAAGTTGCATCATTTTGTCT          GACTAGGTGTCCTTCT</p>


[View online »](#)

<b>Restriction Sites:</b>	Please inquire
<b>ACCN:</b>	NM_000077
<b>Insert Size:</b>	471 bp
<b>OTI Disclaimer:</b>	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).
<b>OTI Annotation:</b>	The open reading frame of this TrueClone was fully sequenced and found to be a perfect match to the protein associated to this reference.
<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>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<u>NM_000077.3, NP_000068.1</u>
<b>RefSeq Size:</b>	1163 bp
<b>RefSeq ORF:</b>	471 bp
<b>Locus ID:</b>	1029
<b>UniProt ID:</b>	<u>P42771</u>
<b>Cytogenetics:</b>	9p21.3
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Bladder cancer, Cell cycle, Chronic myeloid leukemia, Glioma, Melanoma, Non-small cell lung cancer, p53 signaling pathway, Pancreatic cancer, Pathways in cancer

**Gene Summary:**

This gene generates several transcript variants which differ in their first exons. At least three alternatively spliced variants encoding distinct proteins have been reported, two of which encode structurally related isoforms known to function as inhibitors of CDK4 kinase. The remaining transcript includes an alternate first exon located 20 Kb upstream of the remainder of the gene; this transcript contains an alternate open reading frame (ARF) that specifies a protein which is structurally unrelated to the products of the other variants. This ARF product functions as a stabilizer of the tumor suppressor protein p53 as it can interact with, and sequester, the E3 ubiquitin-protein ligase MDM2, a protein responsible for the degradation of p53. In spite of the structural and functional differences, the CDK inhibitor isoforms and the ARF product encoded by this gene, through the regulatory roles of CDK4 and p53 in cell cycle G1 progression, share a common functionality in cell cycle G1 control. This gene is frequently mutated or deleted in a wide variety of tumors, and is known to be an important tumor suppressor gene. [provided by RefSeq, Sep 2012]

Transcript Variant: This variant (1) is also known as alpha. Transcripts 1 and 4, encoding p16INK4a and p14ARF, have distinct first exons which contain the translation start codon, and share a common second exon, which is translated in different reading frames. Thus, the p16INK4a protein encoded by this variant (1) lacks sequence similarity to the protein product of variant 4 (p14ARF).