

Product datasheet for RC400244

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

p16INK4A (CDKN2A) (NM 000077) Human Mutant ORF Clone

Product data:

Product Type: Mutant ORF Clones

Product Name: p16INK4A (CDKN2A) (NM 000077) Human Mutant ORF Clone

Mutation Description: G101W

Affected Codon#: 101

Affected NT#: c.301

Nucleotide Mutation: CDKN2A Mutant (G101W), Myc-DDK-tagged ORF clone of Homo sapiens cyclin-dependent

kinase inhibitor 2A (melanoma, p16, inhibits CDK4) (CDKN2A), transcript variant 1 as

transfection-ready DNA

Effect: Missense Symbol: p16INK4A

Synonyms: ARF; CDK4I; CDKN2; CMM2; INK4; INK4A; MLM; MTS-1; MTS1; P14; P14ARF; P16; P16-INK4A;

P16INK4; P16INK4A; P19; P19ARF; TP16

E. coli Selection: Kanamycin (25 ug/mL)

Mammalian Cell

Selection:

Neomycin

Vector: pCMV6-Entry (PS100001)

Tag: Myc-DDK
ACCN: NM 000077

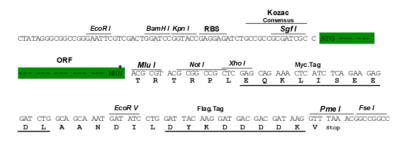
ORF Size: 468 bp
Restriction Sites: Sgfl-Mlul
Restriction Sites: Sgfl-Mlul





Cloning Scheme:





^{*} The last codon before the Stop codon of the ORF

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).

RefSeq: NP 000068

RefSeq Size:1267 bpRefSeq ORF:471 bpLocus ID:1029

Cytogenetics:

Protein Families: Druggable Genome

9p21.3

Protein Pathways: Bladder cancer, Cell cycle, Chronic myeloid leukemia, Glioma, Melanoma, Non-small cell lung

cancer, p53 signaling pathway, Pancreatic cancer, Pathways in cancer





MW:

16 kDa

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]