

## **Product datasheet for RG231009**

## OriGene Technologies, Inc.

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## p16INK4A (CDKN2A) (NM\_001195132) Human Tagged ORF Clone

**Product data:** 

**Product Type:** Expression Plasmids

Product Name: p16INK4A (CDKN2A) (NM\_001195132) Human Tagged ORF Clone

Tag: TurboGFP 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:

Neomycin

**Vector:** pCMV6-AC-GFP (PS100010)

E. coli Selection: Ampicillin (100 ug/mL)

ORF Nucleotide >RG231009 representing NM\_001195132
Sequence: Red=Cloning site Blue=ORF Green=Tags(s)

ned cloning site blue on Green rags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC

**GCAGGCATGCG** 

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG231009 representing NM\_001195132

Red=Cloning site Green=Tags(s)

MEPAAGSSMEPSADWLATAAARGRVEEVRALLEAGALPNAPNSYGRRPIQVMMMGSARVAELLLLHGAEP NCADPATLTRPVHDAAREGFLDTLVVLHRAGARLDVRDAWGRLPVDLAEELGHRDVARYLRAAAGGTRGS

NHARIDAAEGPSEMIGNHLWVCRSRHA

TRTRPLE - GFP Tag - V

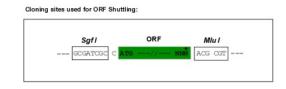


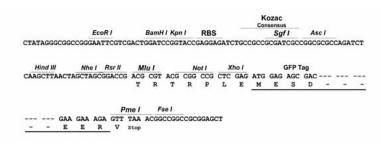


**Restriction Sites:** 

Sgfl-Mlul

**Cloning Scheme:** 





**ACCN:** NM\_001195132

ORF Size: 501 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.

**RefSeq:** <u>NM 001195132.2</u>

 RefSeq Size:
 1464 bp

 RefSeq ORF:
 504 bp

 Locus ID:
 1029

 UniProt ID:
 P42771



**Cytogenetics:** 9p21.3

**Protein Families:** Druggable Genome

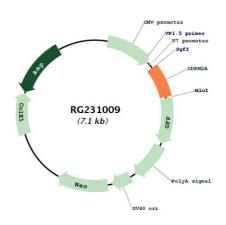
**Protein Pathways:** Bladder cancer, Cell cycle, Chronic myeloid leukemia, Glioma, Melanoma, Non-small cell lung

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]

## **Product images:**



Circular map for RG231009