

Product datasheet for RG231921

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

OriGene Technologies, Inc.

p21 (CDKN1A) (NM_001220778) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids

Product Name: p21 (CDKN1A) (NM_001220778) Human Tagged ORF Clone

Tag: TurboGFP
Symbol: CDKN1A

Synonyms: CAP20; CDKN1; CIP1; MDA-6; P21; p21CIP1; SDI1; WAF1

Mammalian Cell Neomycin

Selection:

Vector: pCMV6-AC-GFP (PS100010)

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

ORF Nucleotide >RG231921 representing NM_001220778
Sequence: Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC

GCCGCGATCGCC

CC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG231921 representing NM_001220778

Red=Cloning site Green=Tags(s)

MSEPAGDVRQNPCGSKACRRLFGPVDSEQLSRDCDALMAGCIQEARERWNFDFVTETPLEGDFAWERVRG LGLPKLYLPTGPRRGRDELGGGRRPGTSPALLQGTAEEDHVDLSLSCTLVPRSGEQAEGSPGGPGDSQGR

KRRQTSMTDFYHSKRRLIFSKRKP

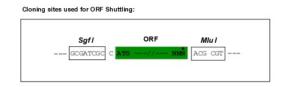
TRTRPLE - GFP Tag - V

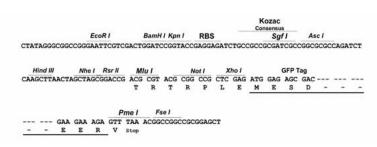
Restriction Sites: Sgfl-Mlul



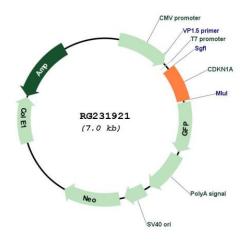


Cloning Scheme:





Plasmid Map:



ACCN: NM_001220778

ORF Size: 492 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 001220778.2</u>

 RefSeq Size:
 2284 bp

 RefSeq ORF:
 495 bp

 Locus ID:
 1026

 UniProt ID:
 P38936

 Cytogenetics:
 6p21.2

Protein Families: Druggable Genome

Protein Pathways: Bladder cancer, Cell cycle, Chronic myeloid leukemia, ErbB signaling pathway, Glioma,

Melanoma, p53 signaling pathway, Pathways in cancer, Prostate cancer

Gene Summary: This gene encodes a potent cyclin-dependent kinase inhibitor. The encoded protein binds to

and inhibits the activity of cyclin-cyclin-dependent kinase2 or -cyclin-dependent kinase4 complexes, and thus functions as a regulator of cell cycle progression at G1. The expression of this gene is tightly controlled by the tumor suppressor protein p53, through which this protein mediates the p53-dependent cell cycle G1 phase arrest in response to a variety of stress stimuli. This protein can interact with proliferating cell nuclear antigen, a DNA

polymerase accessory factor, and plays a regulatory role in S phase DNA replication and DNA damage repair. This protein was reported to be specifically cleaved by CASP3-like caspases,

which thus leads to a dramatic activation of cyclin-dependent kinase2, and may be

instrumental in the execution of apoptosis following caspase activation. Mice that lack this gene have the ability to regenerate damaged or missing tissue. Multiple alternatively spliced

variants have been found for this gene. [provided by RefSeq, Sep 2015]