

Product datasheet for **KN201765LP**

p21 (CDKN1A) Human Gene Knockout Kit (CRISPR)

Product data:

Product Type: Knockout Kits (CRISPR)
Format: 2 gRNA vectors, 1 Luciferase-Puro donor, 1 scramble control
Donor DNA: Luciferase-Puro
Symbol: p21
Locus ID: 1026
Components: **KN201765G1**, p21 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)
KN201765G2, p21 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)
KN201765LPD, donor DNA containing left and right homologous arms and Luciferase-Puro functional cassette.

Homologous arm and Luciferase-Puro sequences:

pUC vector backbone in gray; **Left arm sequence in blue**; **Luciferase-Puro in green**; **Right arm in violet**

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GTATGGCTTC ATTCAGCTCC GGTCCCAAC GATC

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GE100003, scramble sequence in pCas-Guide vector

Disclaimer:

These products are manufactured and supplied by OriGene under license from ERS. The kit is designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the experimental process.

RefSeq:

[NM_000389](#), [NM_001220777](#), [NM_001220778](#), [NM_001291549](#), [NM_078467](#), [NR_037150](#), [NR_037151](#), [NR_037152](#)

UniProt ID:

[P38936](#)

Synonyms:

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

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]

Product images:

