

Product datasheet for **KN201278**

Chk2 (CHEK2) Human Gene Knockout Kit (CRISPR)

Product data:

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| Product Type: | Knockout Kits (CRISPR) |
| Format: | 2 gRNA vectors, 1 GFP-puro donor, 1 scramble control |
| Donor DNA: | GFP-puro |
| Symbol: | Chk2 |
| Locus ID: | 11200 |
| Components: | KN201278G1 , Chk2 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GGACTGGGTAACGCTGCCAT KN201278G2 , Chk2 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GTTGAGGCTCAGCAGTCTCA KN201278D , donor DNA containing left and right homologous arms and GFP-puro functional cassette. |

Homologous arm and GFP-puro sequences:

pUC vector backbone in gray; **Left arm sequence in blue**; **GFP-puro in green**; **Right arm in violet**

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 AGGCATCGTG GTGTCACGCT CGTCGTTTGG TATGGCTTCA TTCAGCTCCG GTTCCAACG ATC

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_001005735](#), [NM_001257387](#), [NM_007194](#), [NM_145862](#), [NM_001349956](#)

UniProt ID:

[O96017](#)

Synonyms:

CDS1; CHK2; hCds1; HuCds1; LFS2; PP1425; RAD53

Summary:

In response to DNA damage and replication blocks, cell cycle progression is halted through the control of critical cell cycle regulators. The protein encoded by this gene is a cell cycle checkpoint regulator and putative tumor suppressor. It contains a forkhead-associated protein interaction domain essential for activation in response to DNA damage and is rapidly phosphorylated in response to replication blocks and DNA damage. When activated, the encoded protein is known to inhibit CDC25C phosphatase, preventing entry into mitosis, and has been shown to stabilize the tumor suppressor protein p53, leading to cell cycle arrest in G1. In addition, this protein interacts with and phosphorylates BRCA1, allowing BRCA1 to restore survival after DNA damage. Mutations in this gene have been linked with Li-Fraumeni syndrome, a highly penetrant familial cancer phenotype usually associated with inherited mutations in TP53. Also, mutations in this gene are thought to confer a predisposition to sarcomas, breast cancer, and brain tumors. This nuclear protein is a member of the CDS1 subfamily of serine/threonine protein kinases. Several transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Apr 2012]

Product images:
