

Product datasheet for **KN312990**

Pdcd1 Mouse Gene Knockout Kit (CRISPR)

Product data:

Product Type:	Knockout Kits (CRISPR)
Format:	2 gRNA vectors, 1 GFP-puro donor, 1 scramble control
Donor DNA:	GFP-puro
Symbol:	Pdcd1
Locus ID:	18566
Components:	<p>KN312990G1, Pdcd1 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GCTGCAGTTGAGCTGGCAATCG</p> <p>KN312990G2, Pdcd1 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GAGGTACCCTGGTCATTCAC TG</p> <p>KN312990D, donor DNA containing left and right homologous arms and GFP-puro functional cassette.</p>

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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 TACAGGCATC GTGGTGTAC GCTCGTCGTT TGGTATGGCT TCATTCAGCT CCGGTTCCCA ACGATC

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_008798](#)

UniProt ID:

[Q02242](#)

Synonyms:

Ly101; PD-1; Pdc1

Summary:

Inhibitory receptor on antigen activated T-cells that plays a critical role in induction and maintenance of immune tolerance to self (PubMed:10485649, PubMed:11698646, PubMed:11209085, PubMed:21300912). Delivers inhibitory signals upon binding to ligands, such as CD274/PDCD1L1 and CD273/PDCD1LG2 (PubMed:11015443, PubMed:11224527, PubMed:22641383, PubMed:18287011, PubMed:18641123). Following T-cell receptor (TCR) engagement, PDCD1 associates with CD3-TCR in the immunological synapse and directly inhibits T-cell activation (PubMed:22641383). Suppresses T-cell activation through the recruitment of PTPN11/SHP-2: following ligand-binding, PDCD1 is phosphorylated within the ITSM motif, leading to the recruitment of the protein tyrosine phosphatase PTPN11/SHP-2 that mediates dephosphorylation of key TCR proximal signaling molecules, such as ZAP70, PRKCQ/PKtheta and CD247/CD3zeta (PubMed:11698646, PubMed:22641383). The PDCD1-mediated inhibitory pathway is exploited by tumors to attenuate anti-tumor immunity and facilitate tumor survival (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:

