

Product datasheet for KN210582RB

OriGene Technologies, Inc.

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Isocitrate dehydrogenase (IDH1) Human Gene Knockout Kit (CRISPR)

Product data:

Product Type: Knockout Kits (CRISPR)

Format: 2 gRNA vectors, 1 RFP-BSD donor, 1 scramble control

Donor DNA: RFP-BSD

Symbol: Isocitrate dehydrogenase

Locus ID: 3417

Components: KN210582G1, Isocitrate dehydrogenase gRNA vector 1 in pCas-Guide CRISPR vector

(GE100002)

KN210582G2, Isocitrate dehydrogenase gRNA vector 2 in pCas-Guide CRISPR vector

(GE100002)

KN210582RBD, donor DNA containing left and right homologous arms and RFP-BSD

functional cassette.

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: <u>NM 001282386, NM 001282387, NM 005896, N21575</u>

UniProt ID: 075874

Synonyms: HEL-216; HEL-S-26; IDCD; IDH; IDP; IDPC; PICD



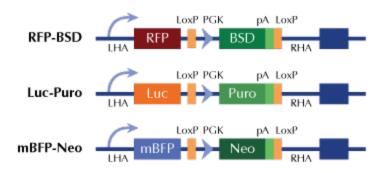


Summary:

Isocitrate dehydrogenases catalyze the oxidative decarboxylation of isocitrate to 2-oxoglutarate. These enzymes belong to two distinct subclasses, one of which utilizes NAD(+) as the electron acceptor and the other NADP(+). Five isocitrate dehydrogenases have been reported: three NAD(+)-dependent isocitrate dehydrogenases, which localize to the mitochondrial matrix, and two NADP(+)-dependent isocitrate dehydrogenases, one of which is mitochondrial and the other predominantly cytosolic. Each NADP(+)-dependent isozyme is a homodimer. The protein encoded by this gene is the NADP(+)-dependent isocitrate dehydrogenase found in the cytoplasm and peroxisomes. It contains the PTS-1 peroxisomal targeting signal sequence. The presence of this enzyme in peroxisomes suggests roles in the regeneration of NADPH for intraperoxisomal reductions, such as the conversion of 2, 4-dienoyl-CoAs to 3-enoyl-CoAs, as well as in peroxisomal reactions that consume 2-oxoglutarate, namely the alpha-hydroxylation of phytanic acid. The cytoplasmic enzyme serves a significant role in cytoplasmic NADPH production. Alternatively spliced transcript variants encoding the same protein have been found for this gene. [provided by RefSeq, Sep 2013]

Product images:

Donor Vector Edited Chromosome



RFP, Luc, and mBFP will be under native gene promoter