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# Product datasheet for KN201561

## GALE Human 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:** GALE

**Locus ID:** 2582

**Components:** **KN201561G1**, GALE gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GCAGAGAAGGTGCTGGTAAC
**KN201561G2**, GALE gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: TGGCTACATTGGCAGCCACA
**KN201561D**, 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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TACAGGCATC GTGGTGTCAC 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.

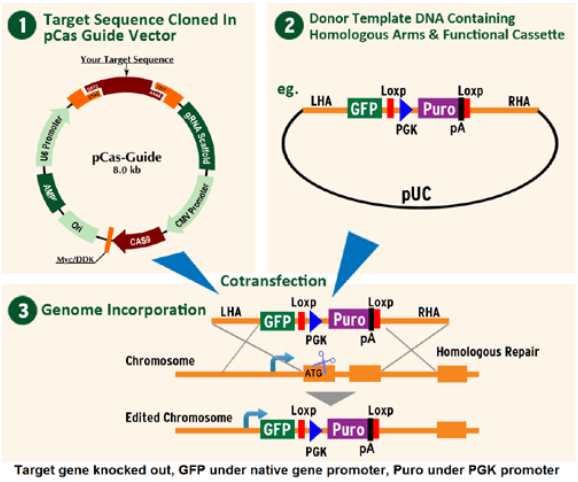
**RefSeq:** NM_000403, NM_001008216, NM_001127621

**UniProt ID:** Q14376

**Synonyms:** SDR1E1

**Summary:** This gene encodes UDP-galactose-4-epimerase which catalyzes two distinct but analogous reactions: the epimerization of UDP-glucose to UDP-galactose, and the epimerization of UDP-N-acetylglucosamine to UDP-N-acetylgalactosamine. The bifunctional nature of the enzyme has the important metabolic consequence that mutant cells (or individuals) are dependent not only on exogenous galactose, but also on exogenous N-acetylgalactosamine as a necessary precursor for the synthesis of glycoproteins and glycolipids. Mutations in this gene result in epimerase-deficiency galactosemia, also referred to as galactosemia type 3, a disease characterized by liver damage, early-onset cataracts, deafness and cognitive disability, with symptoms ranging from mild ('peripheral' form) to severe ('generalized' form). Multiple alternatively spliced transcripts encoding the same protein have been identified. [provided by RefSeq, Jul 2008]

## Product images:




Target gene knocked out, GFP under native gene promoter, Puro under PGK promoter