

## Product datasheet for **KN317423BN**

### Tet2 Mouse Gene Knockout Kit (CRISPR)

#### Product data:

**Product Type:** Knockout Kits (CRISPR)  
**Format:** 2 gRNA vectors, 1 mBFP-Neo donor, 1 scramble control  
**Donor DNA:** mBFP-Neo  
**Symbol:** Tet2  
**Locus ID:** 214133  
**Components:** **KN317423G1**, Tet2 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)  
**KN317423G2**, Tet2 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)  
**KN317423BND**, donor DNA containing left and right homologous arms and mBFP-Neo functional cassette.

Homologous arm and mBFP-Neo sequences:

pUC vector backbone in gray; **Left arm sequence in blue**; **mBFP-Neo in green**; **Right arm in violet**

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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\\_001040400](#), [NM\\_001346736](#), [NM\\_145989](#)

**UniProt ID:**

[Q4JK59](#)

**Synonyms:**

Ayu17-449; E130014J05Rik; mKIAA1546

**Summary:**

Dioxygenase that catalyzes the conversion of the modified genomic base 5-methylcytosine (5mC) into 5-hydroxymethylcytosine (5hmC) and plays a key role in active DNA demethylation. Has a preference for 5-hydroxymethylcytosine in CpG motifs. Also mediates subsequent conversion of 5hmC into 5-formylcytosine (5fC), and conversion of 5fC to 5-carboxylcytosine (5caC). Conversion of 5mC into 5hmC, 5fC and 5caC probably constitutes the first step in cytosine demethylation. Methylation at the C5 position of cytosine bases is an epigenetic modification of the mammalian genome which plays an important role in transcriptional regulation. In addition to its role in DNA demethylation, also involved in the recruitment of the O-GlcNAc transferase OGT to CpG-rich transcription start sites of active genes, thereby promoting histone H2B GlcNAcylation by OGT.[UniProtKB/Swiss-Prot Function]

## Product images:

