

Product datasheet for **KN306098BN**

Foxo3 Mouse Gene Knockout Kit (CRISPR)

Product data:

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| Product Type: | Knockout Kits (CRISPR) |
| Format: | 2 gRNA vectors, 1 mBFP-Neo donor, 1 scramble control |
| Donor DNA: | mBFP-Neo |
| Symbol: | Foxo3 |
| Locus ID: | 56484 |
| Components: | KN306098G1 , Foxo3 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002) KN306098G2 , Foxo3 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002) KN306098BND , donor DNA containing left and right homologous arms and mBFP-Neo 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: | NM_019740 |
| UniProt ID: | Q9WVH4 |
| Synonyms: | 1110048B16Rik; 2010203A17Rik; C76856; Fkhr2; FKHL1; Foxo3a |



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Summary:

Transcriptional activator that recognizes and binds to the DNA sequence 5'-[AG]TAAA[TC]A-3' and regulates different processes, such as apoptosis and autophagy (PubMed:18054316, PubMed:18054315, PubMed:23805378). Acts as a positive regulator of autophagy in skeletal muscle: in starved cells, enters the nucleus following dephosphorylation and binds the promoters of autophagy genes, such as GABARAP1L, MAP1LC3B and ATG12, thereby activating their expression, resulting in proteolysis of skeletal muscle proteins (PubMed:18054316, PubMed:18054315, PubMed:25402684). Triggers apoptosis in the absence of survival factors, including neuronal cell death upon oxidative stress (By similarity). Participates in post-transcriptional regulation of MYC: following phosphorylation by MAPKAPK5, promotes induction of miR-34b and miR-34c expression, 2 post-transcriptional regulators of MYC that bind to the 3' UTR of MYC transcript and prevent its translation (By similarity). In response to metabolic stress, translocates into the mitochondria where it promotes mtDNA transcription (PubMed:23283301).[UniProtKB/Swiss-Prot Function]

Product images:
