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Product datasheet for KN316273LP

Smad4 Mouse Gene Knockout Kit (CRISPR)

Product data:

Product Type:	Knockout Kits (CRISPR)
Format:	2 gRNA vectors, 1 Luciferase-Puro donor, 1 scramble control
Donor DNA:	Luciferase-Puro
Symbol:	Smad4
Locus ID:	17128
Components:	**KN316273G1**, Smad4 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002) **KN316273G2**, Smad4 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002) **KN316273LPD**, donor DNA containing left and right homologous arms and Luciferase-Puro functional cassette. **GE100003**, scramble sequence in pCas-Guide vector
RefSeq:	NM_008540, NM_001364967, NM_001364968
UniProt ID:	P97471
Synonyms:	AW743858; D18Wsu70e; DPC4; Madh4
Summary:	Common SMAD (co-SMAD) is the coactivator and mediator of signal transduction by TGF-beta (transforming growth factor). Component of the heterotrimeric SMAD2/SMAD3-SMAD4 complex that forms in the nucleus and is required for the TGF-mediated signaling. Promotes binding of the SMAD2/SMAD4/FAST-1 complex to DNA and provides an activation function required for SMAD1 or SMAD2 to stimulate transcription. Component of the multimeric SMAD3/SMAD4/JUN/FOS complex which forms at the AP1 promoter site; required for synergistic transcriptional activity in response to TGF-beta. May act as a tumor suppressor. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator (By similarity). Acts synergistically with SMAD1 and YY1 in bone morphogenetic protein (BMP)-mediated cardiac-specific gene expression (PubMed:15329343). Binds to SMAD binding elements (SBEs) (5'-GTCT/AGAC-3') within BMP response element (BMPRE) of cardiac activating regions (PubMed:15329343). In muscle physiology, plays a central role in the balance between atrophy and hypertrophy. When recruited by MSTN, promotes atrophy response via phosphorylated SMAD2/4. MSTN decrease causes SMAD4 release and subsequent recruitment by the BMP pathway to promote hypertrophy via phosphorylated SMAD1/5/8.[UniProtKB/Swiss-Prot Function]

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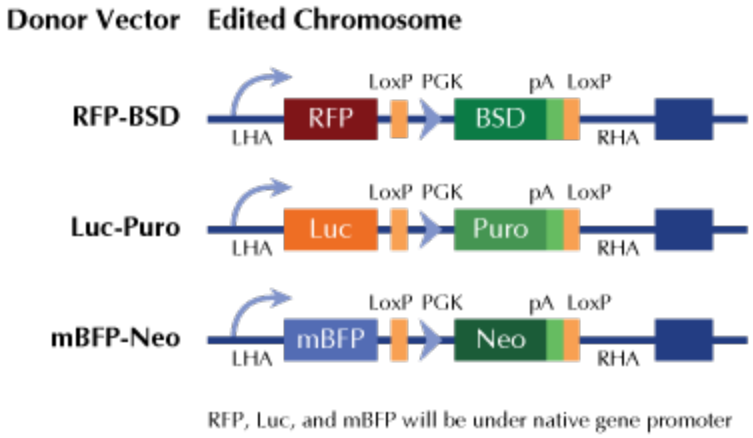
Product images:



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