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Product datasheet for KN318299BN

Trpm2 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:	Trpm2
Locus ID:	28240
Components:	**KN318299G1**, Trpm2 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002) **KN318299G2**, Trpm2 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002) **KN318299BND**, donor DNA containing left and right homologous arms and mBFP-Neo functional cassette. **GE100003**, scramble sequence in pCas-Guide vector
RefSeq:	NM_138301
UniProt ID:	Q91YD4
Synonyms:	9830168K16Rik; C79133; LTRPC2; Trp7; TRPC7; Trrp7

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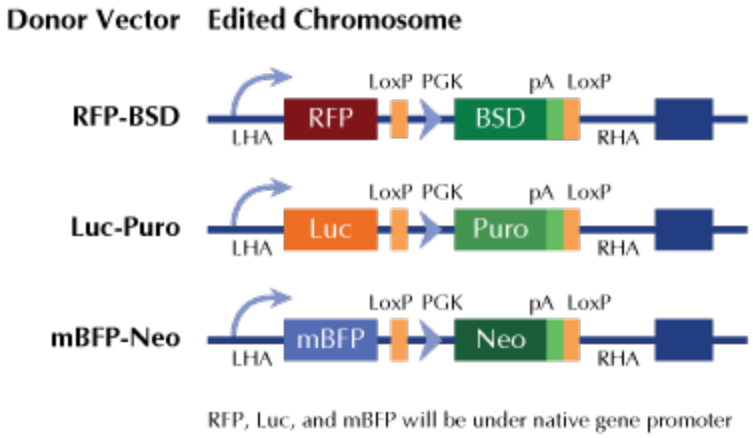
Summary:

Nonselective, voltage-independent cation channel that mediates Na(+) and Ca(2+) influx, leading to increased cytoplasmic Ca(2+) levels (PubMed:11804595, PubMed:19454650, PubMed:21753080, PubMed:22493272). Functions as ligand-gated ion channel. Binding of ADP-ribose to the cytoplasmic Nudix domain causes a conformation change; the channel is primed but still requires Ca(2+) binding to trigger channel opening. Extracellular calcium passes through the channel and increases channel activity (By similarity). Also contributes to Ca(2+) release from intracellular stores in response to ADP-ribose (PubMed:21753080). Plays a role in numerous processes that involve signaling via intracellular Ca(2+) levels (PubMed:21753080). Besides, mediates the release of lysosomal Zn(2+) stores in response to reactive oxygen species, leading to increased cytosolic Zn(2+) levels (By similarity). Activated by moderate heat (35 to 40 degrees Celsius) (PubMed:27533035, PubMed:27562954). Activated by intracellular ADP-ribose, beta-NAD (NAD(+)) and similar compounds, and by oxidative stress caused by reactive oxygen or nitrogen species (PubMed:19454650, PubMed:21753080, PubMed:22493272). The precise physiological activators are under debate; the true, physiological activators may be ADP-ribose and ADP-ribose-2'-phosphate. Activation by ADP-ribose and beta-NAD is strongly increased by moderate heat (35 to 40 degrees Celsius) (By similarity). Likewise, reactive oxygen species lower the threshold for activation by moderate heat (37 degrees Celsius) (PubMed:22493272, PubMed:25817999). Plays a role in mediating behavorial and physiological responses to moderate heat and thereby contributes to body temperature homeostasis (PubMed:27533035, PubMed:27562954). Plays a role in insulin secretion, a process that requires increased cytoplasmic Ca(2+) levels (PubMed:20921208, PubMed:25817999). Required for normal IFNG and cytokine secretion and normal innate immune immunity in response to bacterial infection (PubMed:21709234). Required for normal phagocytosis and cytokine release by macrophages exposed to zymosan (in vitro) (PubMed:22493272). Plays a role in dendritic cell differentiation and maturation, and in dendritic cell chemotaxis via its role in regulating cytoplasmic Ca(2+) levels (PubMed:21753080). Plays a role in the regulation of the reorganization of the actin cytoskeleton and filopodia formation in response to reactive oxygen species via its function in increasing cytoplasmic Ca(2+) and Zn(2+) levels (By similarity). Confers susceptibility to cell death following oxidative stress (PubMed:25562606). [UniProtKB/Swiss-Prot Function]

Product images:



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