OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for TR701398

Trpm2 Rat shRNA Plasmid (Locus ID 294329)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Trpm2 Rat shRNA Plasmid (Locus ID 294329)
Locus ID:	294329
Synonyms:	Trpm2-predicted
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	Trpm2 - Rat, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 294329). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	NM_001011559, NM_001011559.1
UniProt ID:	E9PTA2

View online »

Summary:

Nonselective, voltage-independent cation channel that mediates Na(+) and Ca(2+) influx, leading to increased cytoplasmic Ca(2+) levels (PubMed:16651700, PubMed:16260005, PubMed:11804595, PubMed:16601673, PubMed:19454650). 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:19454650). Plays a role in numerous processes that involve signaling via intracellular Ca(2+) levels (Probable). Besides, mediates the release of lysosomal Zn(2+) stores in response to reactive oxygen species, leading to increased cytosolic Zn(2+) levels (PubMed:25562606). Activated by moderate heat (35 to 40 degrees Celsius) (PubMed:16601673). Activated by intracellular ADP-ribose, beta-NAD (NAD(+)) and similar compounds, and by oxidative stress caused by reactive oxygen or nitrogen species (PubMed:16260005, PubMed:16601673, PubMed:25562606). 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). Plays a role in mediating behavorial and physiological responses to moderate heat and thereby contributes to body temperature homeostasis. Plays a role in insulin secretion, a process that requires increased cytoplasmic Ca(2+) levels (PubMed:16601673). Required for normal IFNG and cytokine secretion and normal innate immune immunity in response to bacterial infection. Required for normal phagocytosis and cytokine release by macrophages exposed to zymosan (in vitro). Plays a role in dendritic cell differentiation and maturation, and in dendritic cell chemotaxis via its role in regulating cytoplasmic Ca(2+) levels (By similarity). 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:16651700, PubMed:11804595, PubMed:19454650, PubMed:25562606). [UniProtKB/Swiss-Prot Function]

shRNA Design:

These shRNA constructs were designed against multiple splice variants at this gene locus. To be certain that your variant of interest is targeted, please contact techsupport@origene.com. If you need a special design or shRNA sequence, please utilize our custom shRNA service.

Performance Guaranteed:

OriGene guarantees that the sequences in the shRNA expression cassettes are verified to correspond to the target gene with 100% identity. One of the four constructs at minimum are guaranteed to produce 70% or more gene expression knock-down provided a minimum transfection efficiency of 80% is achieved. Western Blot data is recommended over qPCR to evaluate the silencing effect of the shRNA constructs 72 hrs post transfection. To properly assess knockdown, the gene expression level from the included scramble control vector must be used in comparison with the target-specific shRNA transfected samples.

For non-conforming shRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the shRNA kit. To arrange for a free replacement with newly designed constructs, please contact Technical Services at techsupport@origene.com. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled shRNA control (Western Blot data preferred).