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 TR503040

Syt7 Mouse shRNA Plasmid (Locus ID 54525)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Syt7 Mouse shRNA Plasmid (Locus ID 54525)
Locus ID:	54525
Synonyms:	AI851541; B230112P13Rik
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	Syt7 - Mouse, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 54525). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	BC139806, NM_018801, NM_173067, NM_173068, NM_173068.1, NM_173068.2, NM_018801.1, NM_018801.2, NM_018801.3, NM_173067.1, NM_173067.2, NM_173067.3, BC105660
UniProt ID:	Q9R0N7

View online »

Summary:

Ca(2+) sensor involved in Ca(2+)-dependent exocytosis of secretory and synaptic vesicles through Ca(2+) and phospholipid binding to the C2 domain. Ca(2+) induces binding of the C2-domains to phospholipid membranes and to assembled SNARE-complexes; both actions contribute to triggering exocytosis. SYT7 binds Ca(2+) with high affinity and slow kinetics compared to other synaptotagmins (PubMed:26738595). Involved in Ca(2+)-triggered lysosomal exocytosis, a major component of the plasma membrane repair (By similarity). Ca(2+)-regulated delivery of lysosomal membranes to the cell surface is also involved in the phagocytic uptake of particles by macrophages (PubMed:16982801, PubMed:21041449). Ca(2+)-triggered lysosomal exocytosis also plays a role in bone remodeling by regulating secretory pathways in osteoclasts and osteoblasts (PubMed:18539119). Involved in cholesterol transport from lysosome to peroxisome by promoting membrane contacts between lysosomes and peroxisomes: probably acts by promoting vesicle fusion by binding phosphatidylinositol-4,5-bisphosphate on peroxisomal membranes (PubMed:25860611). Acts as a key mediator of synaptic facilitation, a process also named short-term synaptic potentiation: synaptic facilitation takes place at synapses with a low initial release probability and is caused by influx of Ca(2+) into the axon terminal after spike generation, increasing the release probability of neurotransmitters (PubMed:24569478, PubMed:26738595). Probably mediates synaptic facilitation by directly increasing the probability of release (PubMed:26738595). May also contribute to synaptic facilitation by regulating synaptic vesicle replenishment, a process required to ensure that synaptic vesicles are ready for the arrival of the next action potential: SYT7 is required for synaptic vesicle replenishment by acting as a sensor for Ca(2+) and by forming a complex with calmodulin (PubMed:24569478). Also acts as a regulator of Ca(2+)-dependent insulin and glucagon secretion in beta-cells (PubMed:18308938, PubMed:19171650). Triggers exocytosis by promoting fusion pore opening and fusion pore expansion in chromaffin cells (PubMed:20956309). Also regulates the secretion of some non-synaptic secretory granules of specialized cells (By similarity). [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).