

## Product datasheet for **TR509260**

### Itk Mouse shRNA Plasmid (Locus ID 16428)

#### Product data:

Product Type:	shRNA Plasmids
Product Name:	Itk Mouse shRNA Plasmid (Locus ID 16428)
Locus ID:	16428
Synonyms:	Emt; Tcsk; Tsk
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	Itk - Mouse, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 16428). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	<a href="#">BC128374</a> , <a href="#">BC128375</a> , <a href="#">NM_001281965</a> , <a href="#">NM_001281966</a> , <a href="#">NM_001281967</a> , <a href="#">NM_001281968</a> , <a href="#">NM_010583</a> , <a href="#">NM_010583.1</a> , <a href="#">NM_010583.2</a> , <a href="#">NM_010583.3</a> , <a href="#">NM_001281967.1</a> , <a href="#">NM_001281968.1</a> , <a href="#">NM_001281966.1</a> , <a href="#">NM_001281965.1</a> , <a href="#">BC028478</a>
UniProt ID:	<a href="#">Q03526</a>
Summary:	Tyrosine kinase that plays an essential role in regulation of the adaptive immune response. Regulates the development, function and differentiation of conventional T-cells and nonconventional NKT-cells. When antigen presenting cells (APC) activate T-cell receptor (TCR), a series of phosphorylation lead to the recruitment of ITK to the cell membrane, in the vicinity of the stimulated TCR receptor, where it is phosphorylated by LCK. Phosphorylation leads to ITK autophosphorylation and full activation. Once activated, phosphorylates PLCG1, leading to the activation of this lipase and subsequent cleavage of its substrates. In turn, the endoplasmic reticulum releases calcium in the cytoplasm and the nuclear activator of activated T-cells (NFAT) translocates into the nucleus to perform its transcriptional duty. Phosphorylates 2 essential adapter proteins: the linker for activation of T-cells/LAT protein and LCP2. Then, a large number of signaling molecules such as VAV1 are recruited and ultimately lead to lymphokine production, T-cell proliferation and differentiation. Phosphorylates TBX21 at 'Tyr-525' and mediates its interaction with GATA3 (PubMed:15662016).[UniProtKB/Swiss-Prot Function]



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**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](mailto: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](mailto: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).