

## Product datasheet for **TR513816**

### Zbtb7a Mouse shRNA Plasmid (Locus ID 16969)

#### Product data:

Product Type:	shRNA Plasmids
Product Name:	Zbtb7a Mouse shRNA Plasmid (Locus ID 16969)
Locus ID:	16969
Synonyms:	9030619K07Rik; 9130006G12Rik; AI452336; FBI-1; Lrf; Pokemon; Zbtb7
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	Zbtb7a - Mouse, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 16969). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	<a href="#">NM_010731</a> , <a href="#">NM_010731.1</a> , <a href="#">NM_010731.2</a> , <a href="#">NM_010731.3</a> , <a href="#">BC145311</a> , <a href="#">BC024815</a> , <a href="#">BC057204</a> , <a href="#">BC138524</a> , <a href="#">BC171957</a>
UniProt ID:	<a href="#">O88939</a>



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**Summary:**

Transcription factor that represses the transcription of a wide range of genes involved in cell proliferation and differentiation (PubMed:15337766, PubMed:15662416, PubMed:17495164, PubMed:26816381, PubMed:29813070). Directly and specifically binds to the consensus sequence 5'-[GA][CA]GACCCCCCCC-3' and represses transcription both by regulating the organization of chromatin and through the direct recruitment of transcription factors to gene regulatory regions (PubMed:15337766, PubMed:15662416, PubMed:26816381, PubMed:29813070). Negatively regulates SMAD4 transcriptional activity in the TGF-beta signaling pathway through these two mechanisms (By similarity). That is, recruits the chromatin regulator HDAC1 to the SMAD4-DNA complex and in parallel prevents the recruitment of the transcriptional activators CREBBP and EP300 (By similarity). Collaborates with transcription factors like RELA to modify the accessibility of gene transcription regulatory regions to secondary transcription factors (PubMed:29813070). Also directly interacts with transcription factors like SP1 to prevent their binding to DNA (By similarity). Functions as an androgen receptor/AR transcriptional corepressor by recruiting NCOR1 and NCOR2 to the androgen response elements/ARE on target genes (By similarity). Thereby, negatively regulates androgen receptor signaling and androgen-induced cell proliferation (By similarity). Involved in the switch between fetal and adult globin expression during erythroid cells maturation (PubMed:26816381). Through its interaction with the NuRD complex regulates chromatin at the fetal globin genes to repress their transcription (PubMed:26816381). Specifically represses the transcription of the tumor suppressor ARF isoform from the CDKN2A gene (PubMed:15662416). Efficiently abrogates E2F1-dependent CDKN2A transactivation (PubMed:15662416). Regulates chondrogenesis through the transcriptional repression of specific genes via a mechanism that also requires histone deacetylation (PubMed:15337766). Regulates cell proliferation through the transcriptional regulation of genes involved in glycolysis (By similarity). Involved in adipogenesis through the regulation of genes involved in adipocyte differentiation (By similarity). Plays a key role in the differentiation of lymphoid progenitors into B and T lineages (PubMed:17495164). Promotes differentiation towards the B lineage by inhibiting the T-cell instructive Notch signaling pathway through the specific transcriptional repression of Notch downstream target genes (PubMed:17495164). Also regulates osteoclast differentiation (By similarity). May also play a role, independently of its transcriptional activity, in double-strand break repair via classical non-homologous end joining/cNHEJ (PubMed:26446488). Recruited to double-strand break sites on damage DNA, interacts with the DNA-dependent protein kinase complex and directly regulates its stability and activity in DNA repair (PubMed:26446488). May also modulate the splicing activity of KHDRBS1 toward BCL2L1 in a mechanism which is histone deacetylase-dependent and thereby negatively regulates the pro-apoptotic effect of KHDRBS1 (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](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).