

## Product datasheet for **TR309255**

### SMAD2 Human shRNA Plasmid Kit (Locus ID 4087)

#### Product data:

Product Type:	shRNA Plasmids
Product Name:	SMAD2 Human shRNA Plasmid Kit (Locus ID 4087)
Locus ID:	4087
Synonyms:	hMAD-2; hSMAD2; JV18; JV18-1; MADH2; MADR2
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	SMAD2 - Human, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 4087). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	<a href="#">NM_001003652</a> , <a href="#">NM_001135937</a> , <a href="#">NM_005901</a> , <a href="#">NM_005901.1</a> , <a href="#">NM_005901.2</a> , <a href="#">NM_005901.3</a> , <a href="#">NM_005901.4</a> , <a href="#">NM_005901.5</a> , <a href="#">NM_001003652.1</a> , <a href="#">NM_001003652.2</a> , <a href="#">NM_001003652.3</a> , <a href="#">NM_001135937.1</a> , <a href="#">NM_001135937.2</a> , <a href="#">BC014840</a> , <a href="#">BC014840.1</a> , <a href="#">BC025699</a> , <a href="#">BC025699.1</a> , <a href="#">NM_001003652.4</a> , <a href="#">NM_005901.6</a>
UniProt ID:	<a href="#">Q15796</a>



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**Summary:**

The protein encoded by this gene belongs to the SMAD, a family of proteins similar to the gene products of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein mediates the signal of the transforming growth factor (TGF)-beta, and thus regulates multiple cellular processes, such as cell proliferation, apoptosis, and differentiation. This protein is recruited to the TGF-beta receptors through its interaction with the SMAD anchor for receptor activation (SARA) protein. In response to TGF-beta signal, this protein is phosphorylated by the TGF-beta receptors. The phosphorylation induces the dissociation of this protein with SARA and the association with the family member SMAD4. The association with SMAD4 is important for the translocation of this protein into the nucleus, where it binds to target promoters and forms a transcription repressor complex with other cofactors. This protein can also be phosphorylated by activin type 1 receptor kinase, and mediates the signal from the activin. Alternatively spliced transcript variants have been observed for this gene. [provided by RefSeq, May 2012]

**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).