



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# Smad2 shRNA (h2) Lentiviral Particles: sc-44338-V

## BACKGROUND

Smad proteins, the mammalian homologs of the *Drosophila* mothers against decapentaplegic (Mad), have been implicated as downstream effectors of TGF $\beta$ /BMP signaling. Smad1 (also designated Mad1 or JV4-1) and Smad5 are effectors of BMP-2 and BMP-4 function, while Smad2 (also designated Mad2 or JV18-1) and Smad3 are involved in TGF $\beta$  and Activin-mediated growth modulation. Smad4 (also designated DPC4) has been shown to mediate all of the above activities through interaction with various Smad family members. Smad6 and Smad7 regulate the response to Activin/TGF $\beta$  signaling by interfering with TGF $\beta$ -mediated phosphorylation of other Smad proteins.

## REFERENCES

- Zhang, Y., et al. 1996. Receptor-associated Mad homologues synergize as effectors of the TGF $\beta$  response. *Nature* 383: 168-172.
- Liu, F., et al. 1996. A human Mad protein acting as a BMP-regulated transcriptional activator. *Nature* 381: 620-623.
- Lagna, G., et al. 1996. Partnership between DPC4 and Smad proteins in TGF $\beta$  signalling pathways. *Nature* 383: 832-836.
- Hoodless, P.A., et al. 1996. Mad1, a Mad-related protein that functions in BMP-2 signaling pathways. *Cell* 85: 489-500.
- Epert, K., et al. 1996. Mad2 maps to 18q21 and encodes a TGF $\beta$ -regulated Mad-related protein that is functionally mutated in colorectal carcinoma. *Cell* 86: 543-552.
- Massagué, J., et al. 1997. TGF $\beta$  signalling through the Smad pathway. *Trends Cell Biol.* 7: 187-192.
- Imamura, T., et al. 1997. Smad6 inhibits signalling by the TGF $\beta$  superfamily. *Nature* 389: 622-626.

## CHROMOSOMAL LOCATION

Genetic locus: SMAD2 (human) mapping to 18q21.1.

## PRODUCT

Smad2 shRNA (h2) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see Smad2 siRNA (h2): sc-44338 and Smad2 shRNA Plasmid (h2): sc-44338-SH as alternate gene silencing products.

## STORAGE

Store lentiviral particles at  $-80^\circ$  C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at  $4^\circ$  C for up to one week. Avoid repeated freeze thaw cycles.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

Smad2 shRNA (h2) Lentiviral Particles is recommended for the inhibition of Smad2 expression in human cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## GENE EXPRESSION MONITORING

Smad2 (A-11): sc-393312 is recommended as a control antibody for monitoring of Smad2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker<sup>™</sup> compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Smad2 gene expression knockdown using RT-PCR Primer: Smad2 (h2)-PR: sc-44338-PR (20  $\mu$ l). Annealing temperature for the primers should be  $55-60^\circ$  C and the extension temperature should be  $68-72^\circ$  C.

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.