



# 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) 



# G9a shRNA (h) Lentiviral Particles: sc-43777-V

## BACKGROUND

Distinct modifications of histone tails, such as acetylation, phosphorylation and methylation, regulate nuclear processes, such as control of transcription and mitotic chromosome condensation. Histone methyltransferases (HMTases) are among the different groups of enzymes known to catalyze the covalent modification. G9a, a SET domain-containing protein, is a novel mammalian lysine-preferring HMTase. G9a, also known as BAT8, NG36 or HMTase (for mammalian histone methyltransferase), has strong HMTase activity towards Histone H3 Lysine 9 methylation *in vitro*. G9a plays a dominant role in euchromatic Histone H3 Lysine 9 methylation, is essential for early embryogenesis and is involved in the transcriptional repression of developmental genes. Like SUV39H, G9a transfers methyl groups to the lysine residues of Histone H3, but with a 10-20-fold higher activity than SUV39H1. G9a also adds methyl groups to Lysine 27 as well as Lysine 9 in Histone H3. G9a localizes in the nucleus, indicating that it may contribute to the organization of the higher order chromatin structure of non-centromeric loci. The human G9a gene maps to chromosome 6p21.33.

## REFERENCES

1. Spies, T., et al. 1989. Human major histocompatibility complex contains a minimum of 19 genes between the complement cluster and HLA-B. Proc. Natl. Acad. Sci. USA 86: 8955-8958.
2. Milner, C.M. and Campbell, R.D. 1993. The G9a gene in the human major histocompatibility complex encodes a novel protein containing ankyrin-like repeats. Biochem. J. 290: 811-818.
3. Tachibana, M., et al. 2001. Set domain-containing protein, G9a, is a novel lysine-preferring mammalian histone methyltransferase with hyperactivity and specific selectivity to Lysines 9 and 27 of Histone H3. J. Biol. Chem. 276: 25309-25317.
4. Brown, S.E., et al. 2001. Novel NG36/G9a gene products encoded within the human and mouse MHC class III regions. Mamm. Genome 12: 916-924.

## CHROMOSOMAL LOCATION

Genetic locus: EHMT2 (human) mapping to 6p21.33.

## PRODUCT

G9a shRNA (h) 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 G9a siRNA (h): sc-43777 and G9a shRNA Plasmid (h): sc-43777-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.

## APPLICATIONS

G9a shRNA (h) Lentiviral Particles is recommended for the inhibition of G9a expression in human cells.

## SUPPORT REAGENTS

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

## GENE EXPRESSION MONITORING

G9a (C-15): sc-22879 is recommended as a control antibody for monitoring of G9a 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor G9a gene expression knockdown using RT-PCR Primer: G9a (h)-PR: sc-43777-PR (20  $\mu$ l, 419 bp). 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.