SANTA CRUZ BIOTECHNOLOGY, INC.

SETD2 siRNA (m): sc-153383

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The Power to Question

BACKGROUND

HYPB (huntingtin yeast partner B), also known as SETD2 (SET domain-containing protein 2) or HIF1, is a 2,564 amino acid nuclear protein that contains one WW domain, one SET domain, one post-SET domain and one AWS domain and belongs to the huntingtin interacting protein family. Expressed ubiquitously, HYPB functions as a histone methyltransferase that is specific for the lysine-36 residue of Histone H3 which, once methylated, plays a role in transcriptional activation and is associated with active chromatin. Due to its role in Histone H3 methylation, HYPB is thought to be involved in the modulation of chromatin structure and may also bind to DNA promoters and interact with Pol II, thereby promoting transcription. HYPB may be associated with the pathogenesis of the neurodegenerative disorder Huntington's disease (HD), which is characterized by a loss of striatal neurons, leading to brain deterioration and, ultimately, death. The murine homolog of HYPB is known as SETD2 and functions in a similar manner to its human counterpart.

REFERENCES

1. Faber, P.W., et al. 1998. Huntingtin interacts with a family of WW domain proteins. Hum. Mol. Genet. 7: 1463-1474.
2. Passani, L.A., et al. 2000. Huntingtin's WW domain partners in Huntington's disease post-mortem brain fulfill genetic criteria for direct involvement in Huntington's disease pathogenesis. Hum. Mol. Genet. 9: 2175-2182.
3. Rega, S., et al. 2001. Identification of the full-length huntingtin-interacting protein p231HBP/HYPB as a DNA-binding factor. Mol. Cell. Neurosci. 18: 68-79.
4. Sun, X.J., et al. 2005. Identification and characterization of a novel human Histone H3 lysine 36-specific methyltransferase. J. Biol. Chem. 280: 35261-35271.
5. Li, M., et al. 2005. Solution structure of the Set2-Rpb1 interacting domain of human Set2 and its interaction with the hyperphosphorylated C-terminal domain of Rpb1. Proc. Natl. Acad. Sci. USA 102: 17636-17641.
6. Xie, P., et al. 2008. Histone methyltransferase protein SETD2 interacts with p53 and selectively regulates its downstream genes. Cell. Signal. 20: 1671-1678.
7. Edmunds, J.W., et al. 2008. Dynamic histone H3 methylation during gene induction: HYPB/Setd2 mediates all H3K36 trimethylation. EMBO J. 27: 406-420.

CHROMOSOMAL LOCATION

Genetic locus: Setd2 (mouse) mapping to 9 F2.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

SETD2 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SETD2 shRNA Plasmid (m): sc-153383-SH and SETD2 shRNA (m) Lentiviral Particles: sc-153383-V as alternate gene silencing products.

For independent verification of SETD2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-153383A, sc-153383B and sc-153383C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SETD2 siRNA (m) is recommended for the inhibition of SETD2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SETD2 gene expression knockdown using RT-PCR Primer: SETD2 (m)-PR: sc-153383-PR (20 µl, 569 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.