

# Histone cluster 2 H2AC siRNA (m): sc-146025

## BACKGROUND

Eukaryotic histones are basic and water soluble nuclear proteins that form hetero-octameric nucleosome particles by wrapping 146 base pairs of DNA in a left-handed super-helical turn sequentially to form chromosomal fiber. Two molecules of each of the four core Histones (H2A, H2B, H3 and H4) form the octamer, which is comprised of two H2A-H2B dimers and two H3-H4 dimers, forming two nearly symmetrical halves by tertiary structure. Histones are subject to posttranslational modification by enzymes primarily on their N-terminal tails, but also in their globular domains. Histone cluster 2 H2AC (HIST2H2AC), also known as H2A, H2A-GL101 or H2AFQ, is a 129 amino acid member of the Histone H2A family. The gene encoding Histone cluster 2 H2AC is intronless and maps to human chromosome 1q21.2.

## REFERENCES

- Collart, D., Romain, P.L., Huebner, K., Pockwinse, S., Pilapil, S., Cannizzaro, L.A., Lian, J.B., Croce, C.M., Stein, J.L. and Stein, G.S. 1992. A human Histone H2B.1 variant gene, located on chromosome 1, utilizes alternative 3' end processing. *J. Cell. Biochem.* 50: 374-385.
- Albig, W. and Doenecke, D. 1997. The human histone gene cluster at the D6S105 locus. *Hum. Genet.* 101: 284-294.
- Marzluff, W.F., Gongidi, P., Woods, K.R., Jin, J. and Maltais, L.J. 2002. The human and mouse replication-dependent histone genes. *Genomics* 80: 487-498.
- Braastad, C.D., Hovhannisyan, H., van Wijnen, A.J., Stein, J.L. and Stein, G.S. 2004. Functional characterization of a human histone gene cluster duplication. *Gene* 342: 35-40.
- Wang, H., Wang, L., Erdjument-Bromage, H., Vidal, M., Tempst, P., Jones, R.S. and Zhang, Y. 2004. Role of Histone H2A ubiquitination in Polycomb silencing. *Nature* 431: 873-878.
- Zhao, Y., Lang, G., Ito, S., Bonnet, J., Metzger, E., Sawatsubashi, S., Suzuki, E., Le Guezennec, X., Stunnenberg, H.G., Krasnov, A., Georgieva, S.G., Schüle, R., Takeyama, K., Kato, S., Tora, L. and Devys, D. 2008. A TFTC/STAGA module mediates Histone H2A and H2B deubiquitination, coactivates nuclear receptors, and counteracts heterochromatin silencing. *Mol. Cell* 29: 92-101.
- Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 602797. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Pinato, S., Scandiuzzi, C., Arnaudo, N., Citterio, E., Gaudino, G. and Penengo, L. 2009. RNF168, a new RING finger, MIU-containing protein that modifies chromatin by ubiquitination of Histones H2A and H2AX. *BMC Mol. Biol.* 10: 55.

## CHROMOSOMAL LOCATION

Genetic locus: Hist2h2ac (mouse) mapping to 3 F2.1.

## PROTOCOLS

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

## PRODUCT

Histone cluster 2 H2AC siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Histone cluster 2 H2AC shRNA Plasmid (m): sc-146025-SH and Histone cluster 2 H2AC shRNA (m) Lentiviral Particles: sc-146025-V as alternate gene silencing products.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Histone cluster 2 H2AC siRNA (m) is recommended for the inhibition of Histone cluster 2 H2AC 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  $\mu$ M in 66  $\mu$ l. 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.

## RESEARCH USE

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