SANTA CRUZ BIOTECHNOLOGY, INC.

ASH1L (ASH5H03): sc-81052

BACKGROUND

ASH1L (absent small and homeotic disks protein 1 homolog) is a 2,969 amino acid protein encoded by the human gene ASH1L. ASH1L belongs to the histone-lysine methyltransferase family (SET2 subfamily) and contains three AT hook DNA-binding domains, one AWS domain, one BAH domain, one bromo domain, one PHD-type zinc finger, one post-SET domain and one SET domain. It is a widely expressed nuclear protein with highest expression found in brain, heart and kidney. ASH1L is a histone methyltransferase and is believed to methylate Lys-4 of Histone H3, which is a specific tag for epigenetic transcriptional activation.

REFERENCES

1. Nakamura, T., Blechman, J., Tada, S., Rozovskaia, T., Itoyama, T., Bullrich, F., Mazo, A., Croce, C.M., Geiger, B. and Canaani, E. 2000. huASH1 protein, a putative transcription factor encoded by a human homologue of the *Drosophila* ash1 gene, localizes to both nuclei and cell-cell tight junctions. Proc. Natl. Acad. Sci. USA 97: 7284-7289.
2. Lachner, M. and Jenuwein, T. 2002. The many faces of histone lysine methylation. Curr. Opin. Cell Biol. 14: 286-298.
3. Schotta, G., Lachner, M., Peters, A.H. and Jenuwein, T. 2004. The indexing potential of histone lysine methylation. Novartis Found. Symp. 259: 22-37.
4. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 607999. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Vakoc, C.R., Sachdeva, M.M., Wang, H. and Blobel, G.A. 2006. Profile of histone lysine methylation across transcribed mammalian chromatin. Mol. Cell. Biol. 26: 9185-9195.
6. Gregory, G.D., Vakoc, C.R., Rozovskaia, T., Zheng, X., Patel, S., Nakamura, T., Canaani, E. and Blobel, G.A. 2007. Mammalian ASH1L is a histone methyltransferase that occupies the transcribed region of active genes. Mol. Cell. Biol. 27: 8466-8479.

CHROMOSOMAL LOCATION

Genetic locus: ASH1L (human) mapping to 1q22.

SOURCE

ASH1L (ASH5H03) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of ASH1L of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

ASH1L (ASH5H03) is recommended for detection of ASH1L of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

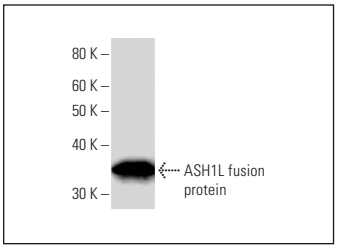
Suitable for use as control antibody for ASH1L siRNA (h): sc-88574, ASH1L shRNA Plasmid (h): sc-88574-SH and ASH1L shRNA (h) Lentiviral Particles: sc-88574-V.

Molecular Weight of ASH1L: 332 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



ASH1L (ASH5H03): sc-81052. Western Blot analysis of human recombinant ASH1L fusion protein.

SELECT PRODUCT CITATIONS

1. Breton, A., Theodorou, A., Aktuna, S., Sonzogni, L., Darling, D., Chan, L., Menzel, S., van der Spek, P.J., Swagemakers, S.M., Grosveld, F., Philipsen, S. and Thein, S.L. 2016. ASH1L (a histone methyltransferase protein) is a novel candidate globin gene regulator revealed by genetic study of an English family with β-thalassaemia unlinked to the β-globin locus. Br. J. Haematol. 175: 525-530.
2. Yu, M., Jia, Y., Ma, Z., Ji, D., Wang, C., Liang, Y., Zhang, Q., Yi, H. and Zeng, L. 2022. Structural insight into ASH1L PHD finger recognizing methylated histone H3K4 and promoting cell growth in prostate cancer. Front. Oncol. 12: 906807.

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.