PRODUCT INFORMATION

ASH2L (human, recombinant)

Item No. 42063

Overview and Properties

Synonyms:	Absent, Small, or Homeotic Discs 2-like, ASH2-like, Histone Lysine Methyltransferase Complex Subunit, Set1/Ash2 Histone Methyltransferase Complex Subunit Ash2 Isoform A
Source:	Recombinant human N-terminal His- and SUMO-tagged ASH2L expressed in *E. coli*
Amino Acids:	96-628
Uniprot No.:	Q9UBL3
Molecular Weight:	73.86 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥70%
Supplied in:	PBS, pH 7.5, with 20% glycerol
Protein Concentration:	***batch specific*** mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

ASH2-like, histone lysine methyltransferase complex subunit (ASH2L) is a member of the trithorax group (TrxG) of proteins and an obligatory component of all histone H3K4 activating methylation complexes, also known as COMPASS complexes.[1-3] It is ubiquitously expressed and composed of a PHD finger, a WH motif, an SPRY domain, and a dpy-30 histone methyltransferase complex regulatory subunit (DPY30) binding motif.[4,5] ASH2L, in conjunction with WD repeat domain 5 (WDR5), RB-binding protein 5 (RBBP5), and DPY30, optimizes the methyltransferase activity of histone-lysine N-methyltransferase SET enzymes within COMPASS complexes and has roles in epigenetic regulation and neurogenesis.[3] Global knockdown of *Ash2l* induces early embryonic lethality in mice. Dorsal ectoderm-targeted knockdown of *ash2l* in late, but not early, *Xenopus* neurula embryos inhibits neural and neural crest marker gene expression. ASH2L levels are increased in acute myeloid leukemia (AML) cells isolated from patients with mutant FMS-related tyrosine kinase 3 (FLT-3) compared with those isolated from patients with wild-type FLT-3, and lower levels of ASH2L are positively correlated with increased overall survival.[5] Cayman's ASH2L (human, recombinant) protein can be used for Western blot (WB) applications.

References

1. Wang, J., Zhou, Y., Yin, B., *et al.* ASH2L: Alternative splicing and downregulation during induced megakaryocytic differentiation of multipotential leukemia cell lines. *J. Mol. Med. (Berl.)* **79(7)**, 399-405 (2001).
2. Steward, M.M., Lee, J.S., O'Donovan, A., *et al.* Molecular regulation of H3K4 trimethylation by ASH2L, a shared subunit of MLL complexes. *Nat. Struct. Mol. Biol.* **13(9)**, 852-4 (2009).
3. Mohammadparast, S. and Chang, C. Ash2l, an obligatory component of H3K4 methylation complexes, regulates neural crest development. *Dev. Biol.* **492**, 14-24 (2022).
4. Chen, Y., Cao, F., Wan, B., *et al.* Structure of the SPRY domain of human Ash2L and its interactions with RbBP5 and DPY30. *Cell Res.* **22(3)**, 598-602 (2012).
5. Butler, J.S., Qiu, Y.H., Zhang, N., *et al.* Low expression of ASH2L protein correlates with a favorable outcome in acute myeloid leukemia. *Leuk. Lymphoma* **58(5)**, 1207-1218 (2017).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM