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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 <i>E. coli</i>
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:	<i>batch specific</i> 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).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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