

# Product Information



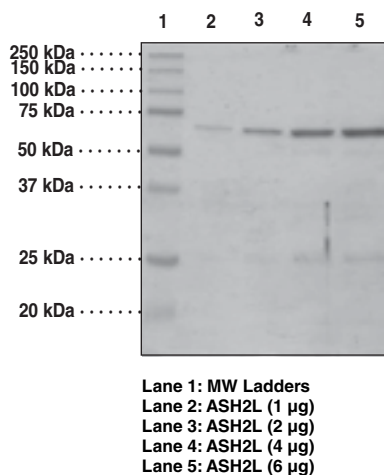
## ASH2L (human recombinant)

Item No. 10946 • Batch No. XXXXXX

<b>Synonyms:</b>	Absent, small, or homeotic discs 2-like, Set1/Ash2 Histone Methyltransferase Complex Subunit Ash2 Isoform A
<b>Source:</b>	Recombinant protein expressed in <i>E. coli</i> . An N-terminal hexahistidine tag and SUMOpro tag were removed by cleavage with SUMO Protease 1 (Ulp1). <i>SUMOpro and SUMO Protease 1 were used under non-exclusive license from LifeSensors, Inc. www.lifesensors.com.</i>
<b>Amino Acids:</b>	96-628 (N-terminal truncation)
<b>Genbank Accession No.:</b>	NP_004665
<b>M<sub>r</sub>:</b>	60.1 kDa
<b>Purity:</b>	≥90%
<b>Stability:</b>	≥6 months at -80°C; avoid freeze/thaw cycles by aliquoting protein
<b>Supplied in:</b>	50 mM Tris, pH 8.0, containing 150 mM sodium chloride and 20% glycerol
<b>Activity:</b>	Activity was demonstrated by a radiometric assay of the MLL1 complex (ASH2L, WDR5, RbBP5, and MLL1) (Cayman Item No. 10756) and MLL1 complex (ASH2L, WDR5, RbBP5, MLL1, and DPY30) (Cayman Item No. 10945) using [ <sup>3</sup> H]-S-adenosylmethionine and Core Histones (Cayman Item No. 11010) which specifically methylates Histone H3.

**Protein Concentration:** *batch specific* mg/ml

ASH2L is the human homolog of the *Drosophila* absent, small or homeotic discs 2 (*ash2*) gene product, a member of the trithorax group (TrxG) of proteins.<sup>1</sup> The TrxG gene products in *Drosophila* and their mammalian homologs are responsible for controlling gene transcription. The ASH2L protein is a component of various multisubunit protein complexes, including the large complex of proteins associated with the SET1 (MLL) family of lysine methyltransferases.<sup>2</sup> ASH2L, along with WDR5 and RbBP5, form the human MLL1 core protein complex.<sup>3</sup> MLL1-5 protein complexes catalyze the di- and trimethylation of histone H3 at lysine 4 (H3K4me2/me3), leading to the maintenance of global H3K4 trimethylation.<sup>4</sup> Post-translational modifications of ASH2L have also been described showing methylation of Arg-296 by protein-arginine methyltransferase 1 (PRMT1) *in vitro* and in cells and by PRMT5 *in vitro*.<sup>5</sup> Further experimental evidence in rats suggests that ASH2L cooperates with Ha-RAS to transform rat embryonic fibroblasts, implicating ASH2L as a novel oncoprotein.<sup>6</sup>



## References

1. Wang, J., Zhou, Y., Yin, B., *et al. J. Mol. Med.* **79**(7), 399-405 (2001).
2. Steward, M.M., Lee, J.S., O'Donovan, A., *et al. Nat. Struct. Mol. Biol.* **13**(9), 852-4 (2009).
3. Dou, Y., Milne, T.A., Ruthenburg, A.J., *et al. Nat. Struct. Mol. Biol.* **13**(8), 713-9 (2006).
4. Wang, P., Lin, C., Smith, E.R., *et al. Mol. Cell. Biol.* **29**(22), 6074-85 (2009).
5. Butler, J.S., Zurita-Lopez, Cl., Clarke, S.G., *et al. J. Biol. Chem.* **286**(14), 12234-44 (2011).
6. Lüscher-Firzlauff, J., Gawlista, I., Vervoorts, J., *et al. Cancer Res.* **68**(3), 749-58 (2008).

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For a list of related products please visit: [www.caymanchem.com/catalog/10946](http://www.caymanchem.com/catalog/10946)

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## Cayman Chemical

**Mailing address**  
1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

**Phone**  
(800) 364-9897  
(734) 971-3335

**Fax**  
(734) 971-3640

**E-Mail**  
custserv@caymanchem.com

**Web**  
[www.caymanchem.com](http://www.caymanchem.com)