

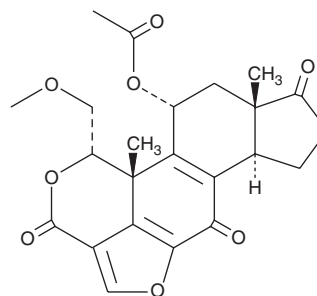
# PRODUCT INFORMATION



## Wortmannin

Item No. 10010591

**CAS Registry No.:** 19545-26-7  
**Formal Name:** 11-(acetyloxy)-1S,6bR,7,8,9aS,10,11R,11bR-octahydro-1-(methoxymethyl)-9a,11b-dimethyl-3H-furo[4,3,2-de]indeno[4,5-h]-2-benzopyran-3,6,9-trione  
**Synonym:** KY 12420  
**MF:** C<sub>23</sub>H<sub>24</sub>O<sub>8</sub>  
**FW:** 428.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 257, 292 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Wortmannin is supplied as a crystalline solid. A stock solution may be made by dissolving the wortmannin in the solvent of choice, which should be purged with an inert gas. Wortmannin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of wortmannin in ethanol is approximately 0.15 mg/ml and approximately 14 mg/ml in DMSO and DMF.

Wortmannin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, wortmannin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Wortmannin has a solubility of approximately 0.1 mg/ml in a 1:8 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

By phosphorylating phosphatidylinositol, phosphoinositide 3-kinases (PI3K), activates diverse cellular functions, including cell growth, differentiation, survival, and motility. Wortmannin is a potent, cell-permeable, and irreversible inhibitor of PI3K enzymes (IC<sub>50</sub> = 1-10 nM). However, the class II PI3Ks from *Drosophila*, murine, and human differ in sensitivity to wortmannin (IC<sub>50</sub>s = 5, 50, 450 nM, respectively).<sup>1</sup> Wortmannin also inhibits polo-like kinase 1 (IC<sub>50</sub> = 24 nM) and polo-like kinase 3 (IC<sub>50</sub> = 49 nM), as well as mTOR, DNA-PK, PI4K, MLCK, and p38 MAPK at 50 to 100 fold higher concentrations than that needed for PI3K inhibition.<sup>2,3</sup>

### References

1. Fruman, D.A., Meyers, R.E., and Cantley, L.C. Phosphoinositide kinases. *Annu. Rev. Biochem.* **67**, 481-507 (2008).
2. Liu, Y., Shreder, K.R., Gai, W., *et al.* Wortmannin, a widely used phosphoinositide 3-kinase inhibitor, also potently inhibits mammalian polo-like kinase. *Chemistry and Biology* **12**, 99-107 (2005).
3. Liu, Y., Jiang, N., Wu, J., *et al.* Polo-like kinases inhibited by wortmannin. Labeling site and downstream effects. *J. Biol. Chem.* **282**(4), 2505-2511 (2007).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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#### 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