

Store at
-20°C

Aphidicolin

#32774

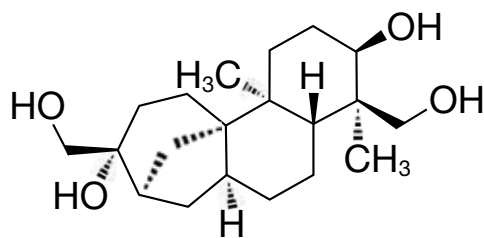
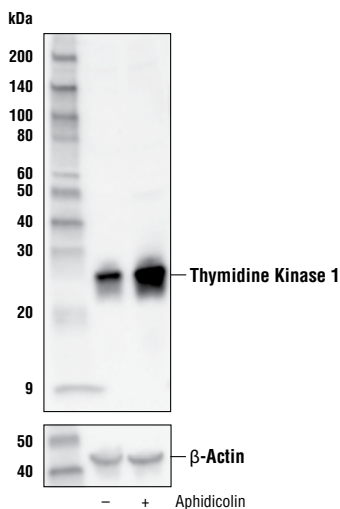
1 mg

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For Research Use Only. Not For Use In Diagnostic Procedures.

Background: Aphidicolin is a tetracyclic diterpenoid first produced by the fungus *Cephalosporium aphidicola*. This antibiotic is a potent inhibitor of cellular deoxyribonucleic acid (DNA) synthesis by targeting α , ϵ , and δ DNA polymerases in eukaryotic cells lines with little to no effect on β or γ DNA polymerases (1,2). Studies have shown that Aphidicolin specifically binds to α DNA polymerase, resulting in the formation of a pol α -DNA-aphidicolin ternary complex that blocks DNA replication. The uses for this compound include synchronizing cells at the G1/S boundary and increased gene amplification (3-6).

Molecular Formula: C₂₀H₃₄O₄**Molecular Weight:** 338.5 g/mol**Purity:** >98%**CAS:** 38966-21-1**Solubility:** Soluble in DMSO at 10 mg/ml or ethanol at 1 mg/ml.

Western blot analysis of extracts from HT-29 cells, untreated (-) or treated with Aphidicolin (10 μ g/ml, 24 hr; +), using Thymidine Kinase 1 (E2H7Z) Rabbit mAb #28755 (upper) or β -Actin (D6A8) Rabbit mAb #8457 (lower).

Storage: Store lyophilized at -20°C, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at -20°C and use within 1 month to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use: Aphidicolin is supplied as a lyophilized powder. For a 5 mM stock, reconstitute 1 mg of powder in 590 μ l of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

Background References:

- (1) Longiaru, M. et al. (1979) *Nucleic Acids Res* 6, 3369-86.
- (2) Syväoja, J. et al. (1990) *Proc Natl Acad Sci U S A* 87, 6664-8.
- (3) Dinter-Gottlieb, G. and Kaufmann, G. (1983) *J Biol Chem* 258, 3809-12.
- (4) Sheaff, R. et al. (1991) *Biochemistry* 30, 8590-7.
- (5) Kota, K.P. et al. (2012) *Viruses* 4, 1865-77.
- (6) Yin, D.X. and Schimke, R.T. (1996) *Proc Natl Acad Sci U S A* 93, 3394-8.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster MK—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.