

Product Data Sheet

Product Name: Latrunculin A

Cat. No.: GC15671

Chemical Properties

Cas. No. 76343-93-6

Chemical Name (R)-4-((1R,4Z,8E,10Z,12S,15R,17R)-17-hydroxy-5,12-dimethyl-3-oxo-2,16-dioxabicyclo[13.3.1]nonadeca-4,8,10-trien-17-yl)thiazolidin-2-one

SMILES O[C@@](C1)([C@H]2NC(SC2)=O)[C@H](CC[C@@H](/C=C\C=C\CC/C(C)=C\3)C)[C@H]1OC3=O

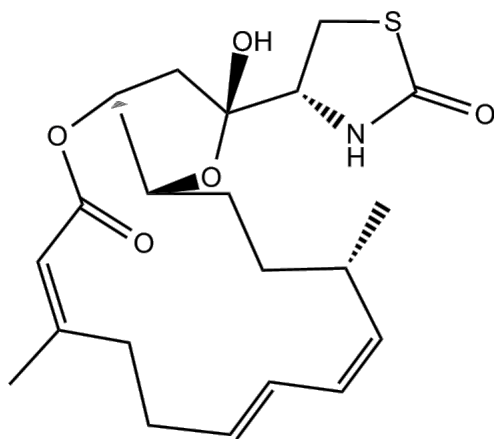
Formula $C_{22}H_{31}NO_5S$ M.Wt 421.6

Solubility 25mg/mL in ethanol, or in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Actin disruption is used to study cell functions in vitro (e.g., migration, endocytosis) and in vivo (e.g., tumor cell invasion). Latrunculin A is a bioactive 2-thiazolidinone macrolide derived from sponges that sequesters G-actin and prevents F-actin assembly. It binds monomeric actin with 1:1 stoichiometry and can be used to block actin polymerization both in vitro ($K_d = 0.2 \mu M$) and in cells ($0.5 \mu M$, 30

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

min).[1],[2],[3] Latrunculin A (1-10 μ M) causes depolymerization of tumor cell cytoskeleton within ten minutes.[4] Overnight treatment of cells with latrunculin A (10 μ M) strongly suppresses actin synthesis.[5] Prolonged cell treatment blocks dexamethasone-induced changes in actin cytoskeleton with no effect on cell viability.[6]

References

- [1]. Coué, M., Brenner, S.L., Spector, I., et al. Inhibition of actin polymerization by latrunculin A. FEBS Letters 213(2), 316-318 (1987).
- [2]. Yarmola, E.G., Somasundaram, T., Boring, T.A., et al. Actin-latrunculin A structure and function. The Journal of Biological Chemistry 275(36), 28120-28127 (2000).
- [3]. Loubéry, S., Wilhelm, C., Hurbain, I., et al. Different microtubule motors move early and late endocytic compartments. Traffic 9, 492-509 (2008).
- [4]. Hayot, C., Debeir, O., Van Ham, P., et al. Characterization of the activities of actin-affecting drugs on tumor cell migration. Toxicology and Applied Pharmacology 211, 30-40 (2006).
- [5]. Lyubimova, A., Bershadsky, A.D., and Ben-Ze'ev, A. Autoregulation of actin synthesis requires the 3'-UTR of actin mRNA and protects cells from actin overproduction. Journal of Cellular Biochemistry 76, 1-12 (1999).
- [6]. Liu, X., Wu, Z., Sheibani, N., et al. Low dose latrunculin-A inhibits dexamethasone-induced changes in the actin cytoskeleton and alters extracellular matrix protein expression in cultured human trabecular meshwork cells. Experimental Eye Research 77, 181-188 (2003).

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA