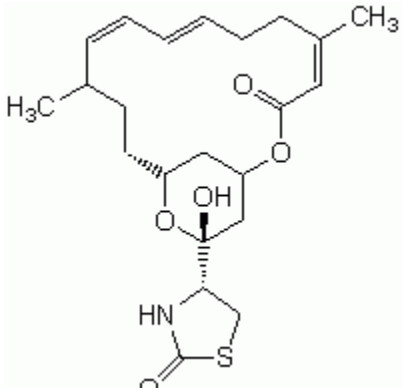
FT-47143A

Latrunculin A

Actin polymerization inhibitor

Product Description

Name :	**Latrunculin A** (4R)-[(1R,4Z,8E,10Z,12S,15R,17R)-17-hydroxy-5,12-dimethyl-3-oxo-2,16-dioxabicyclo[13,3,1]nonadeca-4,8,10-ytirn-17-yl]-2-thiazolidinone NSC613011
Catalog Number :	FP-47143A, 100µg
Structure :	CAS [76343-93-6] $C_{22}H_{31}NO_5S$
Molecular Weight :	MW= 421,6
Supplied as :	Solution in ethanol



Storage: -20°C (>1year) Protect from light and moisture

Introduction

A cell-permeable marine toxin that disrupts microfilament organization in cultured cells by the formation of a 1:1 complex with monomeric G-actin (Kd = 200 nM). Also a potent inhibitor of microfilament-mediated processes in sperm, eggs, and embryos.

Directions for use

Storage

For long term storage, latrunculin A can be stored at -20°C. It should be stable for at least one year.

Guidelines for use

Latrunculin A is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add DMSO. The solubility of latrunculin A in DMSO is approximately 25 mg/ml.
If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent in aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Actin disruption is used to study cell functions in vitro (e.g., migration and 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 (Kd = 0,2 µM) and in cells (0,5 µM, 30 min.). Latrunculin A (1-10 µM) strongly suppresses actin synthesis. Prolonged cell treatment blocks dexamethasone-induced changes in actin cytoskeleton with no effect on cell viability.

References

Coué, M., *et al*. Inhibition of actin polymerization by latrunculin A. *FEBS* 213(2) 316-318 (1987).

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- **Liu, X.**, *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. *Exp Eye Res* 77 181-188 (2003).
- **Loubéry, S**., *et al*. Different microtubule motors move early and late endocytic compartments. *Traffic* 9 492-509 (2008)
- **Lyubimova, A**., *et al*. Autoregulation of actin synthesis requires the 3'-UTR of actin mRNA and protects cells from actin overproduction. *J Cell Biochem* 76 1-12 (1999)
- **Shao H.** *et al*., Phosphorylation of alpha-actinin-4 upon epidermal growth factor (EGF) exposure regulates its interaction with actin,*J. Biol. Chem*. (2009) Article
- **Yarmola, E.G.**, *et al*. Actin-latrunculin A structure and function. *J Biol Chem* 275(36) 28120-28127 (2000)

Technical and scientific information

Related / associated products and documents

See BioSciences Innovations catalogue and e-search tool.

- FluoProbes 547H-Phalloidin, FP-BZ9620
- FluoProbes 647H-Phalloidin, FP-BZ9630
- Cytochalasin D, 092663
- Y-27632, MM6530
- Jasplakinolide, FP-33663A

Ordering information

Catalog size quantities and prices may be found at www.interchim.com/
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