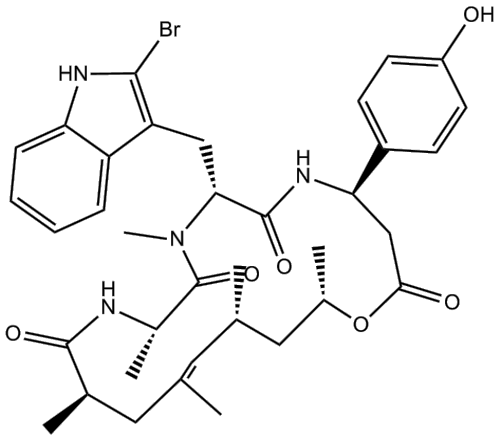
Product Data Sheet

Product Name: Jasplakinolide
Cat. No.: GC17312

Chemical Properties

Cas. No.	102396-24-7		
Chemical Name	(4R,7R,10S,13R,17R,19S,E)-7-((2-bromo-1H-indol-3-yl)methyl)-4-(4-hydroxyphenyl)-8,10,13,15,17,19-hexamethyl-1-oxa-5,8,11-triazacyclononadec-15-ene-2,6,9,12-tetraone		
SMILES	BrC(NC1=CC=CC=C21)=C2C[C@H](C(N[C@@H](C(C=C3)=CC=C3O)CC(O[C@@H](C)C[C@@H](C)C=C(C)C[C@@H](C)C(N[C@H]4C)=O)=O)=O)N(C)C4=O		
Formula	$C_{36}H_{45}BrN_4O_6$	M.Wt	709.67
Solubility	DMSO: Soluble; Ethanol: Soluble; Methanol: Soluble	Storage	Store at -20°C,Protect from light
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

Jasplakinolide is a natural macrocyclic peptide first isolated from a marine sponge. It potently inhibits the proliferation of PC3 prostate carcinoma cells (IC50 = 35 nM) by binding F-actin (KD = 15 nM).[1] This binding of jasplakinolide to actin, which is competitive with phalloidin, stabilizes actin filaments in

Product Data Sheet

vitro but disrupts actin filaments and induces irregular polymerization of monomeric actin in vivo.[1],[2] This compound is used to investigate the role of actin in diverse cellular roles, such as motility, transport, and development.[3],[4]

Reference:

[1]. Bubb, M.R., Senderowicz, A.M.J., Sausville, E.A., et al. Jasplakinolide, a cytotoxic natural product, induces actin polymerization and competitively inhibits the binding of phalloidin to F-actin. The Journal of Biological Chemisty 269(21), 14869-14871 (1994).
[2]. Bubb, M.R., Spector, I., Beyer, B.B., et al. Effects of jasplakinolide on the kinetics of actin polymerization. An explanation for certain in vivo observations. The Journal of Biological Chemisty 275(7), 5163-5170 (2000).
[3]. Van Goor, D., Hyland, C., Schaefer, A.W., et al. The role of actin turnover in retrograde actin network flow in neuronal growth cones. PLoS One 7(2), (2012).
[4]. Zhang, X., Cui, X., Cheng, L., et al. Actin stabilization by jasplakinolide affects the function of bone marrow-derived late endothelial progenitor cells. PLoS One 7(11), (2012).

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