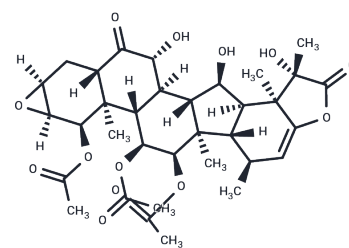


Taccalonolide B

Chemical Properties

CAS No. :	108885-69-4
Formula:	C ₃₄ H ₄₄ O ₁₃
Molecular Weight:	660.71
Appearance:	no data available
Storage:	store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Taccalonolide B is effective in vitro against cell lines that overexpress P-glycoprotein (Pgp) and multidrug-resistance protein (MRP7). Taccalonolide B inhibits growth of SK-OV-3 cells with an IC ₅₀ of 208 nM.
Targets(IC ₅₀)	Microtubule Associated
In vitro	The structures were elucidated using a combination of spectroscopic methods, including 1D and 2D NMR and HR-ESI-MS. Taccalonolide AJ, an epoxidation product of Taccalonolide B, was generated by semisynthesis. Five of these taccalonolides demonstrated cellular microtubule-stabilizing activities and antiproliferative actions against cancer cells, with taccalonolide AJ exhibiting the highest potency with an IC ₅₀ value of 4.2 nM. The range of potencies of these compounds, from 4.2 nM to >50 μM, for the first time provides the opportunity to identify specific structural moieties crucial for potent biological activities as well as those that impede optimal cellular effects. In mechanistic assays, taccalonolides AF and AJ stimulated the polymerization of purified tubulin, an activity that had not previously been observed for taccalonolides A and B, providing the first evidence that this class of microtubule stabilizers can interact directly with tubulin/microtubules. Taccalonolides AF and AJ were able to enhance tubulin polymerization to the same extent as paclitaxel but exhibited a distinct kinetic profile, suggesting a distinct binding mode or the possibility of a new binding site.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.5135 mL	7.5676 mL	15.1352 mL
5 mM	0.3027 mL	1.5135 mL	3.027 mL
10 mM	0.1514 mL	0.7568 mL	1.5135 mL
50 mM	0.0303 mL	0.1514 mL	0.3027 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Potent Taccalonolides, AF and AJ, Inform Significant StructureActivity Relationships and Tubulin as the Binding Site of These Microtubule StabilizersJ. Am. Chem. Soc., 2011, 133 (47), pp 1906419067

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