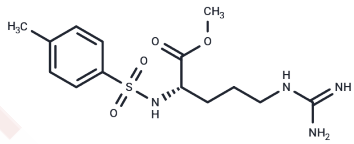
Data Sheet (Cat.No.T6693)

TAME

Chemical Properties



CAS No. : 901-47-3

Formula: C14H22N4O4S

Molecular Weight: 342.41

Storage: Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	TAME (Tosyl-Arginine Methyl Este), an inhibitor of the late-promoting complex (APC/C or APC), inhibits APC-dependent protein hydrolysis by competing for APC binding with the C-terminal isoleucine-arginine tail of the APC activator cytokinesis cycle 20 (Cdc20). TAME binds to and prevents APC binding by Cdc20 and Cdh20. TAME binds to APC and prevents its activation by Cdc20 and Cdh1.
Targets(IC50)	APC/C
In vitro	In the absence of an APC substrate, TAME repels Cdc20 from APC by inducing its auto-ubiquitination in its N-terminal region, while Cyclin B1 counteracts the effect of TAME by promoting the binding of free Cdc20 to APC and inhibiting the auto-ubiquitination of Cdc20. TAME stabilized Cyclin B1 in African Xenopus extracts by two mechanisms. First, TAME reduced the kcat value of the APC^Cdc20/cyclin B1 complex without affecting the Km value, thereby slowing down the initial ubiquitination process of unmodified Cyclin B1. Second, as Cyclin B1 is progressively ubiquitinated, it gradually loses its ability to promote Cdc20 binding to APC in the presence of TAME. As a result, the ubiquitination of Cyclin B1 is terminated before reaching the threshold at which protein hydrolysis is required. [2]

Solubility Information

Solubility	H2O: 63 mg/mL (183.99 mM),Sonication is recommended. Ethanol: 3 mg/mL (8.76 mM),Sonication is recommended. DMSO: 80 mg/mL (233.64 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (9.64 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9205 mL	14.6024 mL	29.2048 mL
5 mM	0.5841 mL	2.9205 mL	5.841 mL
10 mM	0.292 mL	1.4602 mL	2.9205 mL
50 mM	0.0584 mL	0.292 mL	0.5841 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Zeng X, et al. Pharmacologic inhibition of the anaphase-promoting complex induces a spindle checkpoint-dependent mitotic arrest in the absence of spindle damage. Cancer Cell. 2010 Oct 19;18(4):382-95.
Zeng X, et al. An APC/C inhibitor stabilizes cyclin B1 by prematurely terminating ubiquitination. Nat Chem Biol. 2012 Feb 26;8(4):383-92.
Zeng X, et al. An APC/C inhibitor stabilizes cyclin B1 by prematurely terminating ubiquitination. Nat Chem Biol. 2012 Feb 26;8(4):383-92.
Ma Y, et al. Dalton Trans, 2008, 28(8), 1081-1086.
Wuytack EY, et al. Appl Environ Microbiol, 2000, 66(1), 257-261.