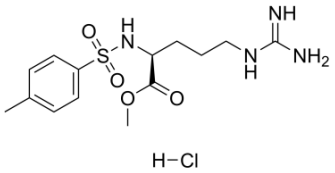
TAME hydrochloride

Cat. No.:	HY-13255A
CAS No.:	1784-03-8
Molecular Formula:	$C_{14}H_{23}ClN_4O_4S$
Molecular Weight:	378.87
Target:	APC
Pathway:	Cell Cycle/DNA Damage
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 155 mg/mL (**409.11 mM;** Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6394 mL	13.1971 mL	26.3943 mL
	5 mM	0.5279 mL	2.6394 mL	5.2789 mL
	10 mM	0.2639 mL	1.3197 mL	2.6394 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: **10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline**
   Solubility: ≥ 2.58 mg/mL (6.81 mM); Clear solution
2. Add each solvent one by one: **10% DMSO >> 90% (20% SBE-β-CD in saline)**
   Solubility: ≥ 2.58 mg/mL (6.81 mM); Clear solution
3. Add each solvent one by one: **10% DMSO >> 90% corn oil**
   Solubility: ≥ 2.58 mg/mL (6.81 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

TAME hydrochloride is an inhibitor of **anaphase-promoting complex/cyclosome (APC/C or APC)**, which binds to APC/C and prevents its activation by Cdc20 and Cdh1, produces mitotic arrest[1].

IC_{50} & Target

Anaphase-promoting complex (APC)[1]

In Vitro

The absence of APC substrates, TAME hydrochloride ejects Cdc20 from the APC by promoting Cdc20 auto-ubiquitination in its N-terminal region. Cyclin B1 antagonizes TAME hydrochloride's effect by promoting binding of

free Cdc20 to the APC and suppressing Cdc20 auto-ubiquitination[2].

TAME hydrochloride stabilizes cyclin B1 in Xenopus extract by two mechanisms. First, it reduces the k_{cat} of the APC^{Cdc20}/cyclin B1 complex without affecting the K_m, slowing the initial ubiquitination of unmodified cyclin B1. Second, as cyclin B1 becomes ubiquitinated, it loses its ability to promote Cdc20 binding to the APC in the presence of TAME hydrochloride. As a result, cyclin B1 ubiquitination terminates before reaching the threshold necessary for proteolysis [2].

REFERENCES

[1]. 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.

[2]. 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.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA