Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

# Tubastatin A (Hydrochloride)

## Catalog No: tcsc0498

### Available Sizes

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg

**Size:** 200mg

**Size:** 500mg

**Size:** 1g

### Specifications

**CAS No:**
1310693-92-5

**Formula:**
$C_{20}H_{22}ClN_3O_2$

**Pathway:**
Autophagy;Epigenetics;Cell Cycle/DNA Damage

**Target:**
Autophagy;HDAC;HDAC

**Purity / Grade:**
>98%

**Solubility:**
DMSO : 10.8 mg/mL (29.04 mM; Need ultrasonic and warming)

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**Alternative Names:**
Tubastatin A HCl;TSA HCl

**Observed Molecular Weight:**
371.86

## Product Description

Tubastatin A (Hydrochloride) is a potent and selective **HDAC6** inhibitor with **$IC_{50}$** of 15 nM in a cell-free assay, and is selective (1000-fold more) against all other isozymes except HDAC8 (57-fold more).

IC50 & Target: IC50: 15 nM (HDAC6)[1]

***In Vitro:*** Tubastatin A is substantially selective for all 11 HDAC isoforms and maintains over 1000-fold selectivity against all isoforms excluding HDAC8, where it has approximately 57-fold selectivity. In homocysteic acid (HCA) induced neurodegeneration assays, Tubastatin A displays dose-dependent protection against HCA-induced neuronal cell death starting at 5 μM with near complete protection at 10 μM[1]. At 100 ng/mL Tubastatin A increases $Foxp^{3+}$ T-regulatory cells (Tregs) suppression of T cell proliferation in vitro[2]. Tubastatin A treatment in CC12 cells would lead to myotube formation impairment when alpha-tubulin is hyperacetylated early in the myogenic process; however, myotube elongation occurs when alpha-tubulin is hyeperacetylated in myotubes[3]. A recent study indicates that Tubastatin A treatment increases cell elasticity as revealed by atomic force microscopy (AFM) tests without exerting drastic changes to the actin microfilament or microtubule networks in mouse ovarian cancer cell lines, MOSE-E and MOSE-L[4].

***In Vivo:*** Daily treatment of Tubastatin A at 0.5 mg/kg inhibits HDAC6 to promote Tregs suppressive activity in mouse models of inflammation and autoimmunity, including multiple forms of experimental colitis and fully major histocompatibility complex (MHC)-incompatible cardiac allograft rejection[2].