

# 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)

#### Alternative Names:

Tubastatin A HCl; TSA HCl

#### Observed Molecular Weight:

371.86

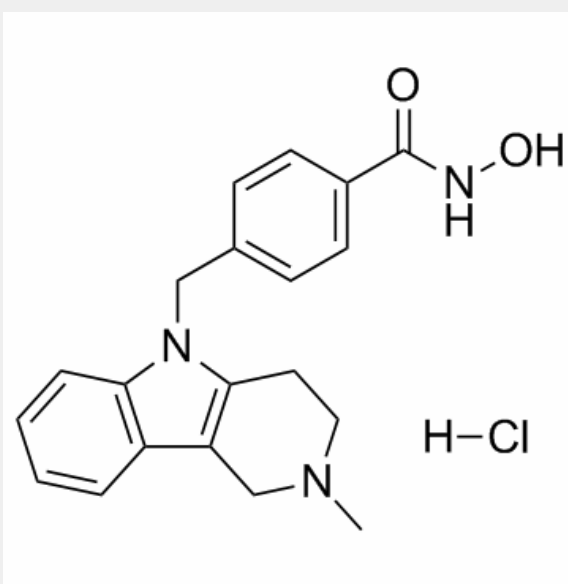
### Product Description

Tubastatin A (Hydrochloride) is a potent and selective **HDAC6** inhibitor with **IC<sub>50</sub>** 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)<sup>[1]</sup>

**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  $\mu$ M with near complete protection at 10  $\mu$ M<sup>[1]</sup>. At 100 ng/mL Tubastatin A increases Foxp<sup>3+</sup> T-regulatory cells (Tregs) suppression of T cell proliferation in vitro<sup>[2]</sup>. 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 hyperacetylated in myotubes<sup>[3]</sup>. 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<sup>[4]</sup>.

**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<sup>[2]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!