



# Trichostatin A

# Data Sheet

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<b>Catalog Number:</b>	MC11103	<b>Product Type:</b>	Small Molecule
<b>Bio-Activity:</b>	HDAC inhibitor	<b>CAS #:</b>	58880-19-6
<b>Research Categories:</b>	Epigenetics, stem cells, cell death, infectious disease, cancer	<b>Chemical Name:</b>	(2E,4E,6R)-7-(4-(Dimethylamino)phenyl)-N-hydroxy-4,6-dimethyl-7-oxo-2,4-heptadienamide
<b>Solubility:</b>	Soluble in DMSO (up to 20 mg/ml), or in Ethanol (up to 3 mg/ml).	<b>Molecular Formula:</b>	C17H22N2O3
<b>Purity:</b>	> 98%	<b>Molecular Weight:</b>	302.4
<b>Format:</b>	Powder	<b>Ship Temp:</b>	Ambient
<b>Storage:</b>	-20°C		

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## Application Notes

**Description/Data:**

Potent and selective histone deacetylase (HDAC) inhibitor ( $K_i = 3.4$  nM). Induces reversion of ras transformed cells to normal morphology [1]. Trichostatin A induces dedifferentiation of primordial germ cells into embryonic germ cells [2]. Cell permeable and active in vivo [3]. Decreased global chromatin condensation increasing gene-editing efficiency 2-4X [4]. Part of the CRISPY mix for increasing precise gene editing [5].

**References:**

- 1) Yoshida et al. (1990), Potent and specific inhibition of mammalian histone deacetylase both in vivo and in vitro by trichostatin A ; J. Biol. Chem., 265 17174
- 2) Futamura et al. (1995), Trichostatin A inhibits both ras-induced neurite outgrowth of PC12 cells and morphological transformation of NIH3T3 cells; Oncogene, 10 1119
- 3) Durcova-Hills et al. (2008), Reprogramming Primordial Germ Cells into Pluripotent Stem Cells; PLoS-One, 3 e3531
- 4) Molugu et al. (2023), Trichostatin A for Efficient CRISPR-Cas9 Gene Editing of Human Pluripotent Stem Cells; CRISPR J., 6 473

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5) Riesenbergs and Maricic (2018), Targeting repair pathways with small molecules increases precise genome editing in pluripotent stem cells; Nat. Commun., 9 2165

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