

产品名称：

(E)-3-(4-((E)-3-(3-fluorophenyl)-3-oxoprop-1-enyl)-1-methyl-1H-pyrrol-2-yl)-N-hydroxyacrylamide

产品别名：**MC1568**

生物活性:

Description	MC1568 is a selective class II (IIa) histone deacetylase (HDAC II) inhibitor, used for cancer research.				
IC ₅₀ & Target	HDAC				
In Vitro	MC1568 arrests myogenesis by decreasing myocyte enhancer factor 2D (MEF2D) expression, by stabilizing the HDAC4–HDAC3–MEF2D complex, and paradoxically, by inhibiting differentiation-induced MEF2D acetylation[1]. MC1568 and MC1575 inhibits IL-8 levels and cell proliferation in either unstimulated or PMA-stimulated melanoma cells. They acts by suppressing c-Jun binding to the IL-8 promoter, recruitment of histones 3 and 4, RNA polymerase II and TFIIB to the c-Jun promoter, and c-Jun expression[2]. MC1568 interferes with the RAR- and PPARγ-mediated differentiation-inducing signaling pathways. In F9 cells, this inhibitor specifically blocks endodermal differentiation. In 3T3-L1 cells, MC1568 attenuates PPARγ-induced adipogenesis[3].				
In Vivo	MC1568 shows an apparent tissue-selective HDAC inhibition. In skeletal muscle and heart, MC1568 inhibits the activity of HDAC4 and HDAC5 without affecting HDAC3 activity, thereby leaving MEF2–HDAC complexes in a repressed state[1]. MC1568 increases mortality and lesion volume and did not improve functional outcome. In addition, MC1568 decreases microtubule associated protein 2, phosphorylated neurofilament heavy chain and myelin basic protein immunoreactivity in the periinfarct cortex[4].				
Solvent&Solubility	In Vitro:				
	DMSO : 18.5 mg/mL (58.86 mM; Need ultrasonic and warming)				
	Preparing Stock Solutions	<div><div>Solvent</div><div>Mass</div><div>Concentration</div></div>	1 mg	5 mg	10 mg
		1 mM	3.1816 mL	15.9079 mL	31.8157 mL
		5 mM	0.6363 mL	3.1816 mL	6.3631 mL
		10 mM	0.3182 mL	1.5908 mL	3.1816 mL
	*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。				
	储备液的保存方式和期限：-80℃，6 months；-20℃，1 month。 -80℃ 储存时，请在 6 个月内使用，-20℃ 储存时，请在 1 个月内使用。				
	In Vivo:				
	请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 In Vitro 方式配制澄清的储备液，再依次添加助溶剂：				
——为保证实验结果的可靠性，澄清的储备液可以根据储存条件，适当保存；体内实验的工作液，建议您现用现配，当天使用； 以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比；如在配制过程中出现沉淀、析出现象，可以通过加热和/或超声的方式助溶					
1.请依序添加每种溶剂： 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline					
Solubility: 1 mg/mL (3.18 mM); Suspended solution; Need ultrasonic					
此方案可获得 1 mg/mL (3.18 mM)的均匀悬浊液，悬浊液可用于口服和腹腔注射。					
以 1 mL 工作液为例，取 100 μL 10.0 mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300 中，混合均匀；向上述体系中加入 50 μL Tween-80，混合均匀；然后继续加入 450 μL 生理盐水定容至 1 mL。					

References	<p>[1]. Nebbioso A, et al. Selective class II HDAC inhibitors impair myogenesis by modulating the stability and activity ofHDAC-MEF2 complexes. EMBO Rep. 2009 Jul;10(7):776-82.</p> <p>[2]. Venza I, et al. Class II-specific histone deacetylase inhibitors MC1568 and MC1575 suppress IL-8 expression in human melanoma cells. Pigment Cell Melanoma Res. 2013 Mar;26(2):193-204.</p> <p>[3]. Nebbioso A, et al. HDACs class II-selective inhibition alters nuclear receptor-dependent differentiation. J Mol Endocrinol. 2010 Oct;45(4):219-28.</p> <p>[4]. Kassis H, et al. Class IIa histone deacetylases affect neuronal remodeling and functional outcome after stroke. Neurochem Int. 2016 Jun;96:24-31.</p>
实验参考:	
Cell Assay	<p>For proliferation studies, 15 ×10³ cells are seeded onto 24-well plates in RPMI-1640 medium supplemented with 10% heat-inactivated fetal bovine serum, 3 mM L-glutamine, 2% penicillin/streptomycin. After 24 h, untreated or HDACis-treated cells are incubated with either vehicle alone or PMA (50 ng/mL) for 6 h, and cell proliferation is evaluated by MTT assay and by cell number counting [2].</p>
Animal Administration	<p>Adult male Wistar rats (n=15-17/group) are subjected to 2 h MCAO and orally gavaged with MC1568 (a selective class IIa HDAC inhibitor), SAHA (a non-selective HDAC inhibitor), or vehicle-control for 7 days starting 24 h after MCAO. A battery of behavioral tests is performed. Lesion volume measurement and immunohistochemistry are performed 28 days after MCAO[4].</p>
References	<p>[1]. Nebbioso A, et al. Selective class II HDAC inhibitors impair myogenesis by modulating the stability and activity ofHDAC-MEF2 complexes. EMBO Rep. 2009 Jul;10(7):776-82.</p> <p>[2]. Venza I, et al. Class II-specific histone deacetylase inhibitors MC1568 and MC1575 suppress IL-8 expression in human melanoma cells. Pigment Cell Melanoma Res. 2013 Mar;26(2):193-204.</p> <p>[3]. Nebbioso A, et al. HDACs class II-selective inhibition alters nuclear receptor-dependent differentiation. J Mol Endocrinol. 2010 Oct;45(4):219-28.</p> <p>[4]. Kassis H, et al. Class IIa histone deacetylases affect neuronal remodeling and functional outcome after stroke. Neurochem Int. 2016 Jun;96:24-31.</p>

源叶生物