

---

**Product Data Sheet**

---

Product Name: MC1568  
Cat. No.: GC15965

**Chemical Properties**

Cas. No. 852475-26-4

Chemical Name (E)-3-[4-[(E)-3-(3-fluorophenyl)-3-oxoprop-1-enyl]-1-methylpyrrol-2-yl]-N-hydroxyprop-2-enamide

SMILES CN1C=C(C=C1C=CC(=O)NO)C=CC(=O)C2=CC(=CC=C2)F

Formula  $C_{17}H_{15}FN_2O_3$  M.Wt 314.31

Solubility  $\geq 15.7$  mg/mL in DMSO Storage Store at  $-20^{\circ}C$

General tips For obtaining a higher solubility, please warm the tube at  $37^{\circ}C$  and shake it in the ultrasonic bath for a while. Stock solution can be stored below  $-20^{\circ}C$  for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure

**Protocol****Kinase experiment****[1]:**

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

---

## Product Data Sheet

---

Maize HD2, HD1-B, and HD1-A enzyme inhibition

The enzyme liberated tritiated acetic acid from the substrate, which was quantified by scintillation counting. IC<sub>50</sub> values are results of triple determinations. A 50  $\mu$ L sample of maize enzyme (at 30 °C) was incubated (30 mins) with 10  $\mu$ L of total [<sup>3</sup>H]acetate-prelabeled chicken reticulocyte histones (2 mg/mL). Reaction was stopped by addition of 50  $\mu$ L of 1 M HCl/0.4 M acetate and 800  $\mu$ L of ethyl acetate. After centrifugation (10000 g, 5 mins), an aliquot of 600  $\mu$ L of the upper phase was counted for radioactivity in 3 mL of liquid scintillation cocktail. MC1568 was tested at a starting concentration of 40  $\mu$ M, and active substances were diluted further. NaB, VPA, TSA, SAHA, 85TPX, HC-toxin, and tubacin were used as the reference compounds, and blank solvents were used as negative controls.

### Cell experiment [2]:

Cell lines 3T3-L1 cells

Preparation method

The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20 °C for several months.

Reaction Conditions ~ 10  $\mu$ M; 8 days

Applications

In 3T3-L1 cells, MC1568 attenuated PPAR $\gamma$ -induced adipogenesis.

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

---

**Product Data Sheet**

---

**Animal experiment****[2]:**

Animal models                      PPRE-Luc transgenic C57BL/6 mice

Dosage form                        50 mg/kg; p.o.; q.d., for 7 days

Applications                        In PPRE-Luc transgenic C57BL/6 mice, MC1568 (50 mg/kg) impaired PPAR $\gamma$  signaling mostly in the heart and adipose tissues.

Other notes                         Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

**Caution: Product has not been fully validated for medical applications. For research use only.**

**Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com**

**Address: 10292 Central Ave. #205, Montclair, CA, USA**

---

## Product Data Sheet

---

### References:

[1]. Mai A, Massa S, Pezzi R, Simeoni S, Rotili D, Nebbioso A, Scognamiglio A, Altucci L, Loidl P, Brosch G. Class II (IIa)-selective histone deacetylase inhibitors. 1. Synthesis and biological evaluation of novel (aryloxopropenyl)pyrrolyl hydroxyamides. J Med Chem. 2005 May 5;48(9):3344-53.

[2]. Nebbioso A, Dell'Aversana C, Bugge A, Sarno R, Valente S, Rotili D, Manzo F, Teti D, Mandrup S, Ciana P, Maggi A, Mai A, Gronemeyer H, Altucci L. HDACs class II-selective inhibition alters nuclear receptor-dependent differentiation. J Mol Endocrinol. 2010 Oct;45(4):219-28.

### Background

MC1568, a derivative of (Aryloxopropenyl)pyrrolyl hydroxyamide, is a novel, potent and specific inhibitor of class II histone deacetylase (HDAC), including two subclasses IIa

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

---

## Product Data Sheet

---

(HDAC4, HDAC5, HDAC6, HDAC7 and HDAC9) and IIb (HDAC6 and HDAC 10), that exhibits strong inhibition against maize class II HDAC with 50% inhibition concentration IC<sub>50</sub> value of 22 μM. MC1568 has been found to tissue-selectively inhibits HDAC and arrest myogenesis in cultured muscle cells through three possible mechanisms, including decreasing the expression of myocyte enhancer factor 2D, stabilizing the HDAC-HDAC3-MEF2D complex and inhibiting the acetylation of differentiation-induced MEF2D. Moreover, MC1568 is able to interfere with RAR- and PPARγ-mediated differentiation-inducing signaling pathways.

### Reference

Mai A, Massa S, Pezzi R, Simeoni S, Rotili D, Nebbioso A, Scognamiglio A, Altucci L, Loidl P, Brosch G. Class II (IIa)-selective histone deacetylase inhibitors. 1. Synthesis and biological evaluation of novel (aryloxopropenyl)pyrrolyl hydroxyamides. *J Med Chem.* 2005 May 5;48(9):3344-53.

Nebbioso A, Dell'Aversana C, Bugge A, Sarno R, Valente S, Rotili D, Manzo F, Teti D, Mandrup S, Ciana P, Maggi A, Mai A, Gronemeyer H, Altucci L. HDACs class II-selective inhibition alters nuclear receptor-dependent differentiation. *J Mol Endocrinol.* 2010 Oct;45(4):219-28. doi: 10.1677/JME-10-0043. Epub 2010 Jul 16.

Nebbioso A, Manzo F, Miceli M, Conte M, Manente L, Baldi A, De Luca A, Rotili D, Valente S, Mai A, Usiello A, Gronemeyer H, Altucci L. Selective class II HDAC inhibitors impair myogenesis by modulating the stability and activity of HDAC-MEF2 complexes. *EMBO Rep.* 2009 Jul;10(7):776-82. doi: 10.1038/embor.2009.88. Epub 2009 Jun 5.

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA