

PRODUCT INFORMATION



Apicidin

Item No. 10575

CAS Registry No.: 183506-66-3
Formal Name: cyclo[(2S)-2-amino-8-oxodecanoyl-1-methoxy-L-tryptophyl-L-isoleucyl-(2R)-2-piperidinecarbonyl]

Synonym: OSI 2040

MF: C₃₄H₄₉N₅O₆

FW: 623.8

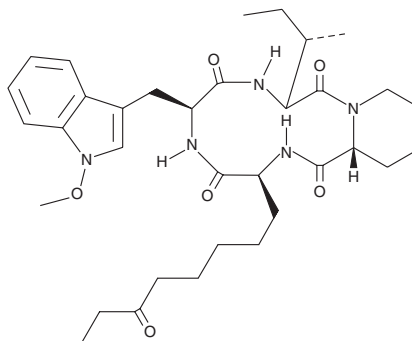
Purity: ≥90%

UV/Vis.: λ_{max}: 221 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Apicidin is supplied as a crystalline solid. A stock solution may be made by dissolving the apicidin in the solvent of choice, which should be purged with an inert gas. Apicidin is soluble in organic solvents such as DMSO and acetonitrile. The solubility of apicidin in these solvents is approximately 1 mg/ml.

Apicidin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, apicidin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Apicidin has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Apicidin is a cyclic tetrapeptide that has been found in *F. pallidroseum* and has diverse biological activities.¹⁻⁴ It is active against *E. tenella*, *T. gondii*, *P. falciparum*, *C. parvum*, *N. caninum*, *B. jellisoni*, and *C. bigenetica* (MICs = 62, 8, 125, 30, 15, 4, and 8 ng/ml, respectively) and decreases the percentage of *P. berghei*-infected erythrocytes in a mouse model of malaria when administered at a dose of 25 mg/kg.¹ Apicidin inhibits histone deacetylase (HDAC) activity in *E. tenella* homogenates (IC₅₀ = 0.7 nM) and recombinant human HDAC2 and HDAC3 (EC₅₀s = 120 and 43 nM, respectively).^{1,2} It inhibits the proliferation of SKOV3 ovarian cancer cells (EC₅₀ = 1-2.5 μM) and induces cell cycle arrest at the G₀/G₁ phase in SKOV3 cells when used at a concentration of 50 nM.³ Apicidin (3.5 mg/kg every two days, i.p.) prevents decreases in freezing time in contextual fear conditioning tests, indicating a reversal of memory deficits, and accumulation of amyloid-β (1-40) (Aβ₄₀) and Aβ₄₂ in the hippocampus and cortex in an APP^{swe}/PSEN1^{dE9} transgenic mouse model of Alzheimer's disease.⁴

References

1. Darkin-Rattray, S.J., Gurnett, A.M., Myers, R.W., et al. *Proc. Natl. Acad. Sci. USA* **93**(23), 13143-13147 (1996).
2. Khan, N., Jeffers, M., Kumar, S., et al. *Biochem. J.* **409**(2), 581-589 (2008).
3. Ueda, T., Takai, N., Nishida, M., et al. *Int. J. Mol. Med.* **19**, 301-308 (2007).
4. Luo, B., Chen, J., Zhou, G.-F., et al. *CNS Neurosci. Ther.* **(0)0**, 1-12 (2023).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/09/2023

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM