

PRODUCT INFORMATION



Vidofludimus

Item No. 18377

CAS Registry No.: 717824-30-1

Formal Name: 2-[[[(3-fluoro-3'-methoxy[1,1'-biphenyl]-4-yl)amino]carbonyl]-1-cyclopentene-1-carboxylic acid

Synonym: 4SC-101

MF: C₂₀H₁₈FNO₄

FW: 355.4

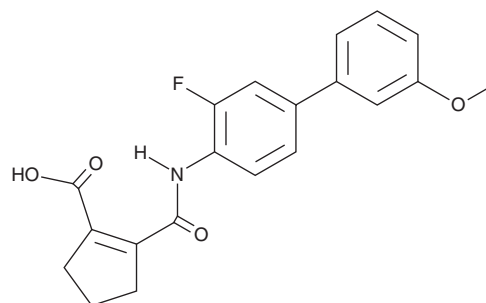
Purity: ≥98%

UV/Vis.: λ_{max}: 261, 293 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

Vidofludimus is supplied as a crystalline solid. A stock solution may be made by dissolving the vidofludimus in the solvent of choice. Vidofludimus is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of vidofludimus in these solvents is approximately 25 mg/ml.

Vidofludimus is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, vidofludimus should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Vidofludimus has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Dihydroorotate dehydrogenase (DHODH) is involved in pyrimidine nucleoside biosynthesis. DHODH inhibitors have value in autoimmune diseases as well as cancer and certain infections.¹ Vidofludimus is an immunosuppressive drug that inhibits DHODH (IC₅₀s = 0.134, 1.29, and 10.6 μM for human, rat, and mouse isoforms, respectively).^{2,3} Through this action, it inhibits the proliferation of T cells and B cells and the secretion of IL-17 (IC₅₀s = 12.9, 3.7, and 6.0 μM, respectively, in human cells).^{2,3} Oral administration of vidofludimus improves both chronic dextran sodium sulfate-induced and acute TNBS-induced colitis in mice.²

References

1. Munier-Lehmann, H., Vidalain, P.O., Tangy, F., *et al.* On dihydroorotate dehydrogenases and their inhibitors and uses. *J. Med. Chem.* **56**(8), 3148-3167 (2013).
2. Fitzpatrick, L.R., Deml, L., Hoffmann, C., *et al.* 4SC-101, a novel immunosuppressive drug, inhibits IL-17 and attenuates colitis in two murine models of inflammatory bowel disease. *Inflamm. Bowel Dis.* **16**(10), 1763-1777 (2010).
3. Fitzpatrick, L.R. Novel pharmacological approaches for inflammatory bowel disease: Targeting key intracellular pathways and the IL-23/IL-17 axis. *Int. J. Inflam.* **2012:389404**, (2016).

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.

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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