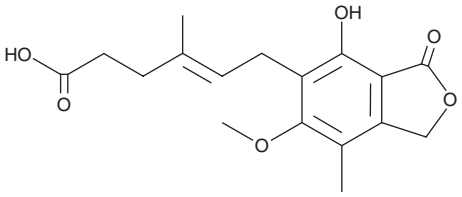
PRODUCT INFORMATION

Mycophenolic Acid

Item No. 21716

CAS Registry No.: 24280-93-1
Formal Name: (4E)-6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-4-hexenoic acid
Synonyms: MPA, NSC 129185
MF: $C_{17}H_{20}O_6$
FW: 320.3
Purity: ≥98%
UV/Vis.: λ_{max}: 215, 249, 305 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

Mycophenolic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the mycophenolic acid in the solvent of choice, which should be purged with an inert gas. Mycophenolic acid is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of mycophenolic acid in these solvents is approximately 10 and 5 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of mycophenolic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of mycophenolic acid in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Mycophenolic acid is an immunosuppresive microbial metabolite that has been found in *P. brevicompactum*.[1,2] It is also an active metabolite of mycophenolate mofetil (Item No. 13988) that is formed *via* carboxylesterase 1 (CES1) and CES2.[3] Mycophenolic acid is an inhibitor of IMP dehydrogenase (IMPDH) type I and type II (IC_{50}s = 32 and 11 nM, respectively, in cell-free assays) and inhibits DNA synthesis in L strain mouse fibroblasts when used at concentrations ranging from 0.1 to 10 µg/ml.[4,5] It is active against several strains of *C. albicans*, *C. parakrusei*, *C. tropicalis*, and *C. neoformans* (MICs = 3.9-31.25 µg/ml), as well as various strains of *S. aureus* (MICs = 31.25-125 µg/ml).[2] Mycophenolic acid (150 mg/kg) reduces splenomegaly in a mouse model of Friend virus-induced leukemia.[6] It decreases the number of hemolytic plaque forming cells isolated from the spleen of mice immunized with sheep red blood cells (RBCs) when administered at doses ranging from 60 to 240 mg/kg.[1] Formulations containing mycophenolic acid have been used as immunosuppressive agents in the prevention of organ transplant rejection.

References

1. Mitsui, A. and Suzuki, S. *J. Antibiot. (Tokyo)* **22(8)**, 358-363 (1969).
2. Noto, T., Sawada, M., Ando, K., *et al. J. Antibiot. (Tokyo)* **22(4)**, 165-169 (1969).
3. Fujiyama, N., Miura, M., Kato, S., *et al. Drug Metab. Dispos.* **38(12)**, 2210-2217 (2010).
4. Watkins, W.J., Chen, J.M., Cho, A., *et al. Bioorg. Med. Chem. Lett.* **16(13)**, 3479-3483 (2006).
5. Franklin, T.J. and Cook, J.M. *Biochem J.* **113(3)**, 515-524 (1969).
6. Williams, R.H., Lively, D.H., DeLong, D.C., *et al. J. Antibiot. (Tokyo)* **21(7)**, 463-464 (1968).

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