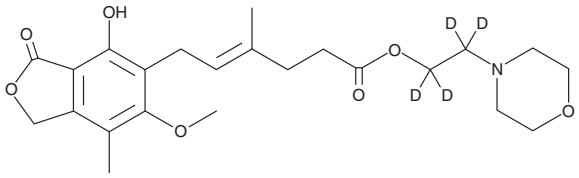
PRODUCT INFORMATION

Mycophenolate Mofetil-d_4

Item No. 25281

CAS Registry No.: 1132748-21-0
Formal Name: 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-4E-hexenoic acid, 2-(4-morpholinyl)ethyl-1,1,2,2-d_4 ester
Synonym: MMF-d_4
MF: $C_{23}H_{27}D_4NO_7$
FW: 437.5
Chemical Purity: ≥98% (Mycophenolate Mofetil)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A 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

Mycophenolate mofetil-d_4 is intended for use as an internal standard for the quantification of mycophenolate mofetil (Item No. 13988) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Mycophenolate mofetil-d_4 is supplied as a solid. A stock solution may be made by dissolving the mycophenolate mofetil-d_4 in the solvent of choice, which should be purged with an inert gas. Mycophenolate mofetil-d_4 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of mycophenolate mofetil-d_4 in these solvents is approximately 1.4, 10, and 14 mg/ml, respectively.

Description

Mycophenolate mofetil is a prodrug form of mycophenolic acid (Item No. 21716).[1-3] It is converted to mycophenolic acid *via* carboxylesterase 1 (CES1) and CES2.[4] Mycophenolate mofetil (1 and 10 µg/ml) inhibits thymidine incorporation in primary rat aortic smooth muscle cells.[5] *In vivo*, mycophenolate mofetil (12.5 mg/kg) increases the duration of transplant motor activity in a rabbit model of retroperitoneal heterotopic heart transplantation.[1] It eliminates formation of microbleeds and hemorrhages in the cerebrum of stroke-prone spontaneously hypertensive rats when administered at a dose of 25 mg/kg.[2] Mycophenolate mofetil (60 mg/kg) also lowers mean arterial pressure (MAP) and reduces urinary albumin excretion and glomerulosclerosis, markers of renal damage, in a mouse model of systemic lupus erythematosus (SLE).[3]

References

1. Aygün, F., Efe, D., and Durgut, K. *Cardiovasc. J. Afr.* **26(3)**, 104-108 (2015).
2. Dhande, I.S., Zhu, Y., Braun, M.C., *et al. Physiol. Genomics* **49(3)**, 132-140 (2017).
3. Taylor, E.B. and Ryan, M.J. *J. Am. Heart Assoc.* **6(3)**, e005394 (2017).
4. Fujiyama, N., Miura, M., Kato, S., *et al. Drug Metab. Dispos.* **38(12)**, 2210-2217 (2010).
5. Räisänen-Sokolowski, A., Vuoristo, P., Myllärniemi, M., *et al. Transpl. Immunol.* **3(4)**, 342-351 (1995).

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