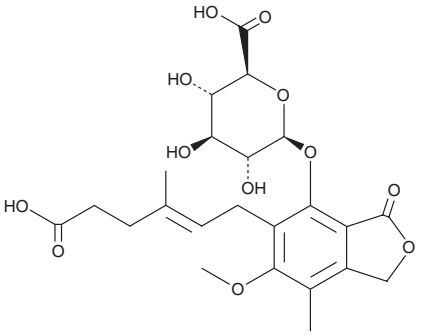
PRODUCT INFORMATION

Mycophenolic Acid β-D-Glucuronide

Item No. 19078

CAS Registry No.:	31528-44-6
Formal Name:	5-[(2E)-5-carboxy-3-methyl-2-penten-1-yl]-1,3-dihydro-6-methoxy-7-methyl-3-oxo-4-isobenzofuranyl β-D-glucopyranosiduronic acid
Synonyms:	MPAG, MPA-phenyl-glucuronide, Mycophenolic Acid Glucosiduronate
MF:	$C_{23}H_{28}O_{12}$
FW:	496.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 214, 250, 292 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 β-D-glucuronide (MPAG) is supplied as a crystalline solid. A stock solution may be made by dissolving the MPAG in the solvent of choice, which should be purged with an inert gas. MPAG is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of MPAG 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 MPAG can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of MPAG 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 β-D-glucuronide (MPAG) is a metabolite of the immunosuppressant mycophenolic acid (Item No. 21716).[1,2] It is formed from mycophenolic acid by the UDP-glucuronosyltransferase (UGT) isoforms UGT1A9, UGT1A8, UGT1A7, and UGT1A10 in insect cell-derived supersomes expressing the human enzymes.[2] Unlike mycophenolic acid, MPAG does not inhibit IMP dehydrogenase (IMPDH) type II in a cell-free assay.[1] However, it does reduce tumor growth in an Ehrlich murine spontaneous adenocarcinoma model when administered at a dose of 6 mg/animal.[3]

References

1. Gensburger, O., Picard, N., and Marquet, P. Effect of mycophenolate acyl-glucuronide on human recombinant type 2 inosine monophosphate dehydrogenase. *Clin. Chem.* **55(5)**, 986-993 (2009).
2. Picard, N., Ratanasavanh, D., Prémaud, A., *et al.* Identification of the UDP-glucuronosyltransferase isoforms involved in mycophenolic acid phase II metabolism. *Drug Metab. Dispos.* **33(10)**, 139-146 (2005).
3. Ando, K., Suzuki, S., and Arita, M. Synthesis of mycophenolic acid βD-glucuronide and its antitumor activity. *J. Antibiot. (Tokyo)* **23(8)**, 408-413 (1970).

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