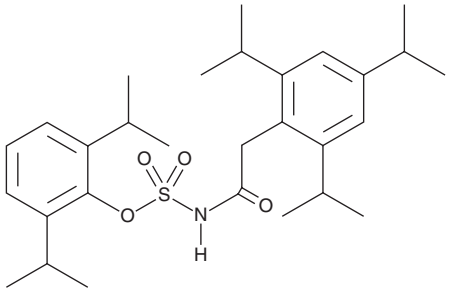
PRODUCT INFORMATION

Avasimibe

Item No. 18129

CAS Registry No.:	166518-60-1
Formal Name:	2,6-bis(1-methylethyl)phenyl ester N-[2-[2,4,6-tris(1-methylethyl) phenyl]acetyl]-sulfamic acid
Synonyms:	CI-1011, PD-148515
MF:	$C_{29}H_{43}NO_4S$
FW:	501.7
Purity:	≥98%
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

Avasimibe is supplied as a crystalline solid. A stock solution may be made by dissolving the avasimibe in the solvent of choice, which should be purged with an inert gas. Avasimibe is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of avasimibe in these solvents is approximately 3, 12, and 5 mg/ml, respectively.

Avasimibe is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, avasimibe should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Avasimibe has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Acyl-Coenzyme A:cholesterol acyltransferases (ACAT1 and ACAT2) catalyze the formation of cholesterol esters from cholesterol and long chain fatty acyl-coenzyme A, and may play a role in the development of atherosclerosis.[1] Avasimibe is an orally bioavailable inhibitor of ACAT (IC_{50}s = 24 and 9.2 µM for ACAT1 and ACAT2, respectively).[2] It reduces foam cell formation in human macrophages *in vitro*, enhancing free cholesterol efflux and inhibiting the uptake of modified LDL and dose-dependently reduces plasma total triglyceride and VLDL cholesterol levels in cholesterol-fed animal models.[3,4] Avasimibe inhibition of ACAT has been used to decrease amyloid β generation in models of Alzheimer's disease.[5]

References

1. Buhman, K.F., Accad, M., and Farese, R.V., Jr. Mammalian acyl-CoA:cholesterol acyltransferases. *Biochim. Biophys. Acta* **1529(1-3)**, 142-154 (2000).
2. Ohshiro, T., Matsuda, D., Sakai, K., *et al.* Pyripyropene A, an acyl-coenzyme A:cholesterol acyltransferase 2-selective inhibitor, attenuates hypercholesterolemia and atherosclerosis in murine models of hyperlipidemia. *Arterioscler. Thromb. Vasc. Biol.* **31(5)**, 1108-1115 (2011).
3. Llaverías, G., Laguna, J.C., and Alegret, M. Pharmacology of the ACAT inhibitor avasimibe (CI-1011). *Cardiovasc. Drug Rev.* **21(1)**, 33-50 (2003).
4. Burnett, J.R., Wilcox, L.J., Telford, D.E., *et al.* Inhibition of ACAT by avasimibe decreases both VLDL and LDL apolipoprotein B production in miniature pigs. *J. Lipid Res.* **40(7)**, 1317-1327 (1999).
5. Huttunen, H.J., Peach, C., Bhattacharyya, R., *et al.* Inhibition of acyl-coenzyme A: cholesterol acyl transferase modulates amyloid precursor protein trafficking in the early secretory pathway. *FASEB J.* **23(11)**, 3819-3828 (2009).

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