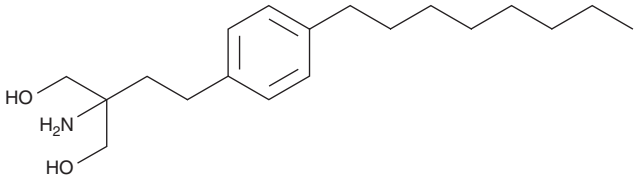
PRODUCT INFORMATION

Fingolimod

Item No. 11975

CAS Registry No.:	162359-55-9
Formal Name:	2-amino-2-[2-(4-octylphenyl)ethyl]-1,3-propanediol
MF:	$C_{19}H_{33}NO_2$
FW:	307.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 218 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Fingolimod is supplied as a crystalline solid. A stock solution may be made by dissolving the fingolimod in the solvent of choice. Fingolimod is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of fingolimod in these solvents is approximately 5, 10, and 20 mg/ml.

Description

Fingolimod is a derivative of ISP-1 (myriocin), a fungal metabolite of the Chinese herb *I. sinclarii* as well as a structural analog of sphingosine. It is a novel immune modulator that prolongs allograft transplant survival in numerous models by inhibiting lymphocyte emigration from lymphoid organs.[1] Fingolimod is phosphorylated by sphingosine kinase, which then acts as a potent agonist at four of the sphingosine-1-phosphate (S1P) receptors ($S1P_1$, $S1P_3$, $S1P_4$, and $S1P_5$).[1] Down-regulation of $S1P_1$ receptors on T and B lymphocytes by fingolimod results in defective egress of these cells from spleen, lymph nodes, and Peyer's patch.[3] Fingolimod also enhances the activity of the sphingosine transporter Abcb1 and the leukotriene C_4 transporter Abcc1 and inhibits cytosolic phospholipase A_2 (PLA_2) activity.[4,5]

References

1. Brinkmann, V., Pinschewer, D.D., Feng, L., *et al*. FTY720: Altered lymphocyte traffic results in allograft protection. *Transplantation* **72(5)**, 764-769 (2001).
2. Brinkmann, V., Davis, M.D., Heise, C.E., *et al*. The immune modulator FTY720 targets sphingosine 1-phosphate receptors. *J. Biol. Chem.* **277(24)**, 21453-21457 (2002).
3. Matloubian, M., Lo, C.G., Cinamon, G., *et al*. Lymphocyte egress from thymus and peripheral lymphoid organs is dependent on S1P receptor 1. *Nature* **427(6972)**, 355-360 (2004).
4. Honig, S.M., Fu, S., Mao, X., *et al*. FTY720 stimulates multidrug transporter- and cysteinyl leukotriene-dependent T cell chemotaxis to lymph nodes. *J. Clin. Invest.* **111(5)**, 627-637 (2003).
5. Payne, S.G., Oskeritizian, C.A., Griffiths, R., *et al*. The immunosuppressant drug FTY720 inhibits cytosolic phospholipase A2 independently of sphingosine-1-phosphate receptors. *Blood* **109(3)**, 1077-1085 (2007).

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