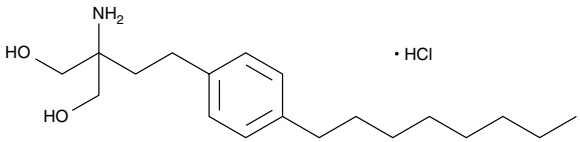
Product Information

FTY720

Item No. 10006292

CAS Registry No.: 162359-56-0
Formal Name: 2-amino-2-[2-(4-octylphenyl)ethyl]-1,3-propanediol, hydrochloride
Synonyms: Fingolimod (hydrochloride), FTY720 (hydrochloride)
MF: $C_{19}H_{33}NO_2 \bullet HCl$
FW: 343.9
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that FTY720 be stored as supplied at -20°C. It should be stable for at least two years.

FTY720 is supplied as a crystalline solid. A stock solution may be made by dissolving the FTY720 in an organic solvent purged with an inert gas. FTY720 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of FTY720 in these solvents is at least 20 mg/ml.

FTY720 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, FTY720 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. FTY720 has a solubility of 0.2 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

FTY720 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] FTY720 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 $S1P_5$).[2] Down-regulation of $S1P_1$ receptors on T and B lymphocytes by FTY720 results in defective egress of these cells from spleen, lymph nodes, and Peyer's patch.[3] FTY720 also enhances the activity of the sphingosine transporter Abcb1 and the leukotriene C_4 transporter Abcc1 and inhibits cytosolic phospholipase A_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**, 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**, 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 A_2 independently of sphingosine-1-phosphate receptors. *Blood* **109(3)**, 1077-1085 (2007).

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