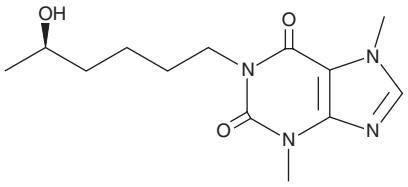
PRODUCT INFORMATION

(R)-Lisofylline

Item No. 13616

CAS Registry No.:	100324-81-0
Formal Name:	3,7-dihydro-1-[(5R)-5-hydroxyhexyl]-3,7-dimethyl-1H-purine-2,6-dione
Synonyms:	(–)-Lisofylline, (R)-LSF
MF:	$C_{13}H_{20}N_4O_3$
FW:	280.3
Purity:	≥97%
UV/Vis.:	λ_{max}: 273 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

(R)-Lisofylline ((R)-LSF) is supplied as a crystalline solid. A stock solution may be made by dissolving the (R)-lisofylline in the solvent of choice, which should be purged with an inert gas. (R)-LSF is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of (R)-LSF in these solvents is approximately 25, 20, and 15 mg/ml.

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 (R)-LSF can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (R)-LSF in PBS (pH 7.2) is approximately 25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

LSF, a chiral metabolite of pentoxifylline, acts as a potent anti-inflammatory agent.[1,2] (R)-LSF is the biologically active isomer of LSF.[1,2] It is a potent inhibitor of the generation of phosphatidic acid (IC_{50} = 0.6 µM) from cytokine-activated lysophosphatidic acyl transferase (LPAAT), which has been shown to protect mice from endotoxic shock.[3] (R)-LSF suppresses the production of the proinflammatory cytokine IFN-γ, inhibits interleukin 12-mediated STAT-4 activation, and enhances glucose-stimulated β-cell insulin secretion, reducing the onset of diabetes in a non-obese diabetic mouse model.[1,4]

References

1. Yang, Z., Chen, M., Ellett, J.D., *et al.* Inflammatory blockade improves human pancreatic islet function and viability. *Am. J. Transplant.* **5(3)**, 475-483 (2005).
2. Wyska, E., Pekala, E., and Szymura-Oleksiak, J. Interconversion and tissue distribution of pentoxifylline and lisofylline in mice. *Chirality* **18(8)**, 644-651 (2006).
3. Rice, G.C., Brown, P.A., Nelson, R.J., *et al.* Protection from endotoxic shock in mice by pharmacologic inhibition of phosphatidic acid. *Proc. Natl. Acad. Sci. USA* **91(9)**, 3857-3861 (1994).
4. Yang, Z.D., Chen, M., Wu, R., *et al.* The anti-inflammatory compound lisofylline prevents type I diabetes in non-obese diabetic mice. *Diabetologia* **45(9)**, 1307-1314 (2002).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM