

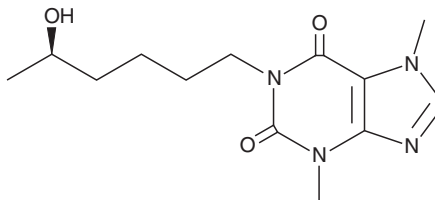
# Product Information



## (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<sub>13</sub>H<sub>20</sub>N<sub>4</sub>O<sub>3</sub>  
**FW:** 280.3  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 273 nm



### Laboratory Procedures

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

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

LSF, a chiral metabolite of pentoxifylline, acts as a potent anti-inflammatory agent.<sup>1,2</sup> (R)-LSF is the biologically active isomer of LSF.<sup>1,2</sup> It is a potent inhibitor of the generation of phosphatidic acid (IC<sub>50</sub> = 0.6 μM) from cytokine-activated lysophosphatidic acyl transferase (LPAAT), which has been shown to protect mice from endotoxemic shock.<sup>3</sup> (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.<sup>1,4</sup>

### References

1. Yang, Z., Chen, M., Ellett, J.D., *et al.* Inflammatory blockade improves human pancreatic islet function and viability. *Am. J. Transplant.* **5**, 475-483 (2005).
2. Wyska, E., Pekala, E., and Szymura-Oleksiak, J. Interconversion and tissue distribution of pentoxifylline and lisofylline in mice. *Chirality* **18**, 644-651 (2006).
3. Rice, G.C., Brown, P.A., Nelson, R.J., *et al.* Protection from endotoxemic shock in mice by pharmacologic inhibition of phosphatidic acid. *Proc. Natl. Acad. Sci. USA* **91**, 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**, 1307-1314 (2002).

### Related Products

(S)-Lisofylline - Cat. No. 13617 • (±)-Lisofylline - Cat. No. 10010785

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

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