

## Produktinformation



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Diagnostik & molekulare Diagnostik
Laborgeräte & Service

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# **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	OH O /
Synonyms:	(-)-Lisofylline, (R)-LSF	
MF:	$C_{13}H_{20}N_4O_3$	$\sim$ $\sim$ N $($
FW:	280.3	
Purity:	≥97%	0 <sup>-</sup> _NN
UV/Vis.:	λ <sub>max</sub> : 273 nm	
Supplied as:	A crystalline solid	
Storage:	-20°C	
Stability:	≥2 years	
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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. (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.

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

(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  $\mu$ M) from cytokine-activated lysophosphatidic acyl transferase (LPAAT), which has been shown to protect mice from endotoxic shock.<sup>3</sup> (R)-LSF suppresses the production of the proinflammatory cytokine IFN- $\gamma$ , inhibits interleukin 12-mediated STAT-4 activation, and enhances glucose-stimulated  $\beta$ -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(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, 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. U.S.A. 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).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFFTY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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