



LKT Laboratories, Inc.

Microcystin (N-Me)-LR

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Product Information

Product ID M3410

CAS No. 1865776-22-2

Chemical Name

Synonym MC(N-Me)LR

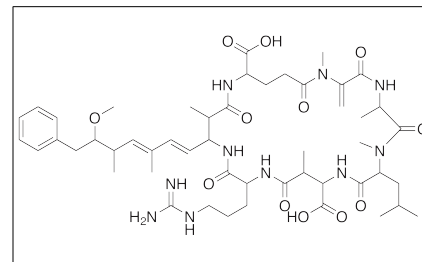
Formula $C_{50}H_{76}N_{10}O_{12}$

Formula Wt. 1009.3

Melting Point

Purity $\geq 95\%$

Solubility



Pricing and Availability

Bulk quantities available upon request

Product ID	Size	List Price
M3410	25 μ g	\$570.80

Store Temp -20°C

Ship Temp Blue Ice

Description Microcystin LR is a cyclic heptapeptide initially produced by species of cyanobacteria *Microcystis*. Microcystin LR exhibits cytotoxic, pro-oxidative, and carcinogenic properties. Microcystin LR is particularly toxic to the liver, increasing cytochrome c release and expression of Bax and caspases 3, 8, and 9; microcystin LR also decreases expression of Bcl-2. In testicular cells, this toxin increases expression of c-KIT and induces apoptosis, causing a decrease in tubular diameter and testes weight. This compound also induces cytoskeletal reorganization, increasing phosphorylation of VASP and tau and also increasing dissociation of tau from the cytoskeleton. In vitro, Microcystin LR inhibits protein phosphatases 1 (PP1) and 2A (PP2A) and induces oxidative damage by increasing levels of ROS and malondialdehyde and decreasing levels of glutathione and glutathione peroxidase. Microcystin LR also produces cognitive deficit in vivo, potentially through activation of glycogen synthase kinase-3 β (GSK-3 β). This compound also activates Nrf2 in cancer cells.

References Zhou Y, Chen Y, Yuan M, et al. In vivo study on the effects of microcystin-LR on the apoptosis, proliferation and differentiation of rat testicular spermatogenic cells of male rats injected i.p. with toxins. *J Toxicol Sci.* 2013;38(5):661-70. PMID: 24025782.

Sun Y, Liu JH, Huang P, et al. Alterations of tau and VASP during microcystin-LR-induced cytoskeletal reorganization in a human liver cell line. *Environ Toxicol.* 2013 Aug 9. doi:. [Epub ahead of print]. PMID: 23929704.

Zhang H, Cai C, Fang W, et al. Oxidative damage and apoptosis induced by microcystin-LR in the liver of *Rana nigromaculata* in vivo. *Aquat Toxicol.* 2013 Sep 15;140-141:11-8. PMID: 23747548.

Wang J, Lin F, Cai F, et al. Microcystin-LR inhibited hippocampal long-term potential via regulation of the glycogen synthase kinase-3 β pathway. *Chemosphere.* 2013 Sep;93(2):223-9. PMID: 23701903.

Liang J, Li T, Zhang YL, et al. Effect of microcystin-LR on protein phosphatase 2A and its function in human amniotic epithelial cells. *J Zhejiang Univ Sci B.* 2011 Dec;12(12):951-60. PMID: 22135143.

Gan N, Sun X, Song L. Activation of Nrf2 by microcystin-LR provides advantages for liver cancer cell growth. *Chem Res Toxicol.* 2010 Sep 20;23(9):1477-84. PMID: 20722399.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.