



Product Information

Cat. No. M2912
MICROCYSTIN LR

> 98% purity

Potent and selective protein phosphatase 1 and 2A inhibitor; hepatotoxin isolated from strains of the blue-green algae *Microcystis aeruginosa*.

Mol. Formula:	$C_{49}H_{74}N_{10}O_{12}$
Mol. Wt.:	995.19 (anhyd.)
CAS Registry No.:	101043-37-2
Chemical Name:	5-L-Arginine-microcystin LA
Physical Properties:	White solid.
Pharmacology:	Protein phosphatase inhibition: $IC_{50} = 1.7$ nM (PP1), 0.04 nM (PP2A). ³
Caution:	POTENT NEUROTOXIN. This substance should be handled with care. Wear gloves and mask when handling this product. Precautions should be taken to avoid contact by all routes of exposure. RTECS No. GT2810000.
Storage:	Store tightly sealed at -20°C.
Solubility:	Soluble in ethanol or DMSO. Microcystin-LR can be diluted in 50 mM Tris-HCl pH 7.0 containing 0.03% Brij 35, and it has been reported that phosphatase inhibition will be retained for at least one month when stored at concentrations as low as 0.01 nM. ⁴
Disposal:	Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. This substance is toxic to humans and all precautions must be taken to avoid ingestion by any route, skin contact or inhalation of fumes during the destruction process. OBSERVE ALL LOCAL, STATE AND FEDERAL LAWS.

References:

1. Oxenrider, K.A. et al. "Inhibition of an archaeal protein phosphatase activity by okadaic acid, microcystin-LR, or calyculin A." *FEBS Lett.* **331**, 291-295 (1993).
2. Redpath, N.T. et al. "Differing effects of the protein phosphatase inhibitors okadaic acid and microcystin on translation in reticulocyte lysates." *Biochim. Biophys. Acta* **1093**, 36-41 (1991).
3. Honkanen, R.E. et al. "Characterization of microcystin-LR, a potent inhibitor of type 1 and type 2A protein phosphatases." *J. Biol. Chem.* **265**, 19401-19404 (1990).
4. MacKintosh, C. et al. "Cyanobacterial microcystin-LR is a potent and specific inhibitor of protein phosphatase 1 and 2A from both mammals and higher plants." *FEBS Lett.* **264**, 187-192 (1990).

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