

# Microcystin-LF

## Inhibitor of PP1 and PP2A

Microcystin-LF (MC-LF) is an analog of microcystin-LR (Prod. No. ALX-350-012) with Phe substituted in place of Arg. MC-LF is hydrophobic and more cell permeable than other microcystins. This increased cell permeability can be useful for biochemical studies in intact cells. MC-LF is more toxic than more hydrophilic analogs such as microcystin-LR (Prod. No. ALX-350-012) or microcystin-LY (Prod. No. ALX-350-148). *May require a license for import, please [contact us](#) for more information.*

Cyanobacteria are photosynthetic prokaryotes mostly present in freshwater ecosystems. The increasingly frequent appearance of cyanobacteria blooms in lakes and rivers is linked to climate changes and human activities. Microcystins are a group of cyclic heptapeptide hepatotoxins produced by a number of cyanobacterial genera. The most notable of which, and namesake, is the widespread genus *Microcystis*. Structurally, all microcystins consist of the generalized structure cyclo(-D-Ala<sup>1</sup>-X<sup>2</sup>-D-MeAsp<sup>3</sup>-Y<sup>4</sup>-Adda<sup>5</sup>-D-Glu<sup>6</sup>-Mdha<sup>7</sup>-). X and Y are variable L-amino acids, D-MeAsp is D-erythro-β-methylaspartic acid and Mdha is N-methyldehydroalanine. Adda is the cyanobacteria unique C<sub>20</sub> β-amino acid 3-amino-9-methoxy-2,6,8-trimethyl-10-phenyl-deca-4,6-dienoic acid. Substitutions of the variable L-amino acids at positions 2 and 4 give rise to at least 21 known primary microcystin analogs and alterations in the other constituent amino acids result in more than 90 reported microcystins to date.

Citations: 37

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## Ordering Information

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ALX-350-081-M001	1mg
ALX-350-081-C025	25µg
ALX-350-081-C100	100µg

## Manuals, SDS & CofA

[View Online »](#)

- Potent inhibitor of PP1 and PP2A
- Used in biochemical studies in intact cells
- Cited in several environment-related research articles



## Handling & Storage

<b>Use/Stability</b>	As indicated on product label or CoA when stored as recommended. Stable in solution for at least 4 weeks when stored at -20 °C.
<b>Handling</b>	For maximum product recovery after thawing, centrifuge the vial before opening the cap.
<b>Long Term Storage</b>	-20°C
<b>Shipping</b>	Ambient Temperature

## Regulatory Status

RUO - Research Use Only

## Product Details

<b>Alternative Name</b>	MC-LF
<b>Appearance</b>	Whitish film adhered to inside of the vial.
<b>CAS</b>	154037-70-4
<b>Couple Target</b>	Serine/threonine-protein phosphatase
<b>Couple Type</b>	Inhibitor
<b>Formula</b>	$C_{52}H_{71}N_7O_{12}$
<b>Identity</b>	Identity determined by MS.
<b>MW</b>	986.2
<b>Purity</b>	≥95% (HPLC)
<b>Solubility</b>	Soluble in 100% methanol.
<b>Source</b>	Isolated from <i>Microcystis aeruginosa</i> .

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