

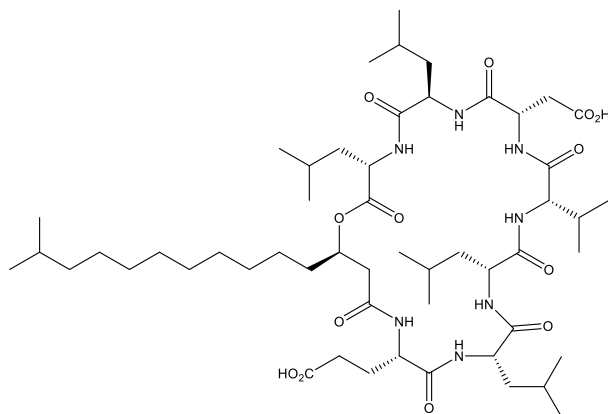
**Catalog # 10-5131**

**Surfactin**

CAS# 24730-31-2

Cyclic peptide produced by *Bacillus subtilis*

Lot # X109351



A lipopeptide biosurfactant<sup>2</sup> which displays various activities including antifungal and antibacterial as well as inhibition of fibrin clot formation<sup>3</sup>. Selectively inhibits cytosolic PLA<sub>2</sub> (IC<sub>50</sub>=8.5 μM) suppressing PLA<sub>2</sub>-mediated inflammatory responses.<sup>4</sup> Induces ER stress-mediated apoptosis *via* IRE1-ASK1-JNK signaling in human osteosarcoma cells.<sup>5</sup>

- 1) Oka *et al.* (1993), *Satisfactory separation and MS-MS spectrometry of six surfactins isolated from Bacillus subtilis natto*; Chem. Pharm. Bull., **41** 1000
- 2) Mulligan *et al.* (2005), *Environmental applications for biosurfactants*; Env. Pol., **133** 183
- 3) Singh and Cameotra. (2004), *Potential applications of microbial surfactants in biomedical sciences*; Trends Biotechnol., **22** 142
- 4) Kim *et al.* (1998), *Suppression of inflammatory responses by surfactin, a selective inhibitor of platelet cytosolic phospholipase A2*; Biochem. Pharmacol., **55** 975
- 5) Wang *et al.* (2022), *Surfactin induces ER stress-mediated apoptosis via IRE1-ASK1-JNK signaling in human osteosarcoma*; Environ. Toxicol., **37** 574

**PHYSICAL DATA**

|                        |   |
|------------------------|---|
| Molecular Weight:      | 1036.36 (based on C <sub>15</sub> subunit)  |
| Molecular Formula:     | C <sub>53</sub> H <sub>93</sub> N <sub>7</sub> O <sub>13</sub> (based on C <sub>15</sub> subunit)   |
| Purity:                | >98% by TLC; HPLC shows a mixture of isomers with the C <sub>14</sub> and C <sub>15</sub> side chains predominating. <sup>1</sup>                 |
|                        | NMR: (Conforms)   |
| Solubility:            | Soluble in DMSO (15 mg/ml)  |
| Physical Description:  | White to off-white solid  |
| Storage and Stability: | Store as supplied, desiccated at -20°C for up to two years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month. |

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