

# PRODUCT INFORMATION



## Iturin A-2

Item No. 38911

CAS Registry No.: 83785-07-3

Formal Name: cyclo[(3R)-3-aminotetradecanoyl-L-asparaginyl-D-tyrosyl-D-asparaginyl-L-glutaminy-L-prolyl-D-asparaginyl-L-seryl]

Synonym: C14 Iturin

MF:  $C_{48}H_{74}N_{12}O_{14}$

FW: 1,043.2

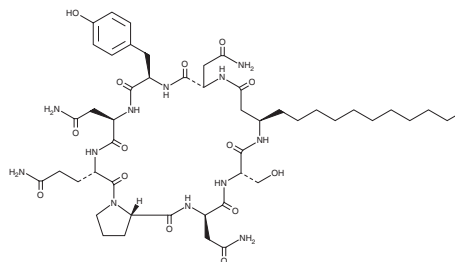
Purity:  $\geq 90\%$

Supplied as: A solid

Storage:  $-20^{\circ}\text{C}$

Stability:  $\geq 4$  years

Item Origin: Bacterium/*Bacillus* sp.



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Iturin A-2 is supplied as a solid. A stock solution may be made by dissolving the Iturin A-2 in the solvent of choice, which should be purged with an inert gas. Iturin A-2 is soluble in methanol, DMSO, and dimethyl formamide.

### Description

Iturin A-2 is a cyclic lipopeptide that has been found in *B. subtilis* and has diverse biological activities.<sup>1-4</sup> It is active against the plant pathogenic fungus *P. expansum* (MIC = 8  $\mu\text{g}/\text{disk}$ ).<sup>1</sup> Iturin A-2 induces cytotoxicity in MCF-7 and BT474 breast cancer and HeLa cervical cancer cells ( $\text{IC}_{50}\text{s}$  = 66.81, 95.04, and 77.5  $\mu\text{g}/\text{ml}$ , respectively).<sup>2</sup> It reduces southern corn leaf blight lesion area induced by *B. maydis* in greenhouse studies and reduces the incidence of southern corn leaf blight in field studies.<sup>3</sup> Iturin A-2 (12.5  $\mu\text{g}/\text{ml}$ ) inhibits cell division, but not nuclear division, in isolated fertilized starfish eggs.<sup>4</sup>

### References

1. Bland, J.M. The first synthesis of a member of the iturin family, the antifungal cyclic lipopeptide, iturin-A2. *J. Org. Chem.* **61**(16), (1996).
2. Jiang, J., Zhang, H., Zhang, C., et al. Production, purification and characterization of 'iturin A-2' a lipopeptide with antitumor activity from Chinese sauerkraut bacterium *Bacillus velezensis* T701. *Int. J. Pept. Res. Ther.* **27**, 2135-2147 (2007).
3. Ye, Y.F., Li, Q.-Q., Fu, G., et al. Identification of antifungal substance (iturin A2) produced by *Bacillus subtilis* B47 and its effect on southern corn leaf blight. *J. Integr. Agric.* **11**(1), 90-99 (2012).
4. Tsuchimori, N., Ikegami, S., Miyashiro, S., et al. Isolation of iturin A-2 as an inhibitor of cytokinesis of starfish embryos. *Comp. Biochem. Physiol. Part C* **84**(2), 381-384 (1986).

#### WARNING

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

#### SAFETY 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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