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Produktinformation

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- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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siehe unsere Liefer- und Versandbedingungen

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- Trockeneiszuschlag
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- Expressversand

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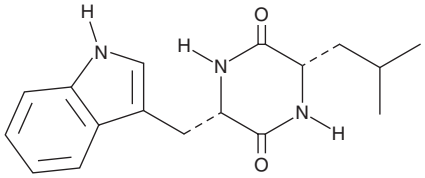
PRODUCT INFORMATION

Cyclo(L-Leu-L-Trp)

Item No. 24942

CAS Registry No.:	15136-34-2
Formal Name:	3S-(1H-indol-3-ylmethyl)-6S-(2-methylpropyl)-2,5-piperazinedione
MF:	$C_{17}H_{21}N_3O_2$
FW:	299.4
Purity:	≥95%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

Cyclo(L-Leu-L-Trp) is supplied as a solid. A stock solution may be made by dissolving the cyclo(L-Leu-L-Trp) in the solvent of choice. Cyclo(L-Leu-L-Trp) is soluble in the organic solvent methanol, which should be purged with an inert gas.

Description

Cyclo(L-Leu-L-Trp) is a diketopiperazine metabolite originally isolated from *Penicillium*.[1] It is active against various bacteria (MICs = 125-1000 µg/ml) and fungi (MICs = 8-64 µg/ml), and it inhibits the production rate of hydroxy radicals in an electron spin resonance (ESR) spectroscopy-based assay (IC_{50} = 1.8 µM).[2,3] Cyclo(L-Leu-L-Trp) is a bitter tastant that can rapidly permeate rat taste cell membranes *ex vivo* when used at a concentration of 1 mM.[4] It also acts as a melatonin receptor agonist in *X. laevis* melanophores, inhibiting cAMP accumulation when used at a concentration of 20 µM, an effect that is blocked by the melatonin receptor antagonist luzindole (Item No. 15998).[5]

References

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2. Kumar, S.N., Mohandas, C., and Nambisan, B. Purification, structural elucidation and bioactivity of tryptophan containing diketopiperazines, from *Comamonas testosteroni* associated with a rhabditid entomopathogenic nematode against major human-pathogenic bacteria. *Peptides* **53(2014)**, 48-58 (2014).
3. Furukawa, T., Akutagawa, T., Funatani, H., *et al.* Cyclic dipeptides exhibit potency for scavenging radicals. *Bioorg. Med. Chem.* **20(6)**, 2002-2009 (2012).
4. Naim, M., Nir, S., Spielman, A.I., *et al.* Hypothesis of receptor-dependent and receptor-independent mechanisms for bitter and sweet taste transduction: Implications for slow taste onset and lingering aftertaste. *Chemistry of Taste* **825(Chapter 1)**, 2–17 (2002).
5. Zubare-Samuelov, M., Peri, I., Tal, M., *et al.* Some sweet and bitter tastants stimulate inhibitory pathway of adenylyl cyclase *via* melatonin and α_2-adrenergic receptors in *Xenopus laevis* melanophores. *Am. J. Physiol. Cell Physiol.* **285(5)**, C1255-62 (2003).

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