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Nitropeptin, a New Dipeptide Antibiotic Possessing a Nitro Group

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Streptomyces xanthochromogenes 6257-MC₁ was isolated from a soil sample collected at Matsushima, Japan, and was found to produce a new antifungal antibiotic, nitropeptin. It is a water soluble, acidic compound of C₁₁H₁₈N₃O₇Na showing λ max 242 nm (ϵ 9,800) in alkaline solution. From the acid hydrolyzate L-leucine was identified and the total structure was analyzed by ¹H and ¹³C NMR spectra, mainly by 2D-COSY, ¹H-¹³C shift correlation and ¹H spin decoupling experiments. Nitropeptin, characterized as N-L-leucyl- β -nitroglutamic acid, was regarded as an antimetabolite of glutamine. It showed protective effect against rice plant disease caused by *Pyricularia oryzae* in a green house test (94% at 200 ppm). LD₅₀ in mice was 50–100 mg/kg (iv).

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