

## AN

2002:429399 BIOSIS

## DN

PREV200200429399

## TI

Cyclipostins, Novel hormone-sensitive lipase inhibitors from *Streptomyces* sp. DSM 13381: II. Isolation, structure elucidation and biological properties.

## AU

Vertesy, Laszlo [Reprint author]; Beck, Bernd; Broenstrup, Mark; Ehrlich, Klaus; Kurz, Michael; Mueller, Guenter; Schummer, Dietmar; Seibert, Gerhard

## CS

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## SO

Journal of Antibiotics (Tokyo), (May, 2002) Vol. 55, No. 5, pp. 480-494.  
print.  
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## DT

Article

## LA

English

## ED

Entered STN: 7 Aug 2002  
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## AB

Hormone-sensitive lipase (HSL) is a key enzyme of lipid metabolism and its control is therefore a target in the treatment of diabetes mellitus. Cultures of the *Streptomyces* species DSM 13381 have been shown to potently inhibit HSL. Ten inhibitors of HSL, termed cyclipostins, have been isolated from the mycelium of this microorganism and a further nine related compounds detected. Their structures were characterized by 2-D NMR experiments and by mass spectrometry and were found to comprise neutral cyclic enol phosphate esters with an additional gamma-lactone ring. On account of their ester-bound fatty alcohol side chain, the cyclipostins have physicochemical properties similar to those of triglycerides. The outstanding characteristic of the cyclipostins is their strong anti-HSL activity, with IC<sub>50</sub> values in the nanomolar range.

## CC

Biochemistry studies - Lipids 10066  
Pathology - Therapy 12512  
Metabolism - General metabolism and metabolic pathways 13002  
Metabolism - Metabolic disorders 13020  
Endocrine - Pancreas 17008  
Pharmacology - General 22002  
Pharmacology - Endocrine system 22016  
Physiology and biochemistry of bacteria 31000

## IT

Major Concepts  
Metabolism; Pharmacology

## IT

Parts, Structures, & Systems of Organisms  
mycelium

## IT

Diseases  
diabetes mellitus: endocrine disease/pancreas, metabolic disease,  
drug therapy  
Diabetes Mellitus (MeSH)

## IT

Chemicals & Biochemicals  
cyclic enol phosphate esters; cyclipostins: antidiabetic-drug, enzyme  
inhibitor-drug, biological properties, structure; hormone-sensitive  
lipase; triglycerides

## IT

Methods &amp; Equipment

mass spectrometry: Spectrum Analysis Techniques, analytical method;  
two-dimensional NMR: analytical method

IT

Miscellaneous Descriptors  
lipid metabolism

ORGN

Classifier  
Streptomycetes and Related Genera 08840  
Super Taxa  
Actinomycetes and Related Organisms; Eubacteria; Bacteria;  
Microorganisms  
Organism Name  
Streptomyces sp.: strain-DSM 13381  
Taxa Notes  
Bacteria, Eubacteria, Microorganisms

RN

372092-03-0 (CYCLIPOSTINS)