

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

LG Natural Products Research, H 780, Frankfurt/Main, Germany  
Laszlo.Vertesy@aventis.com

SO

Journal of Antibiotics (Tokyo), (May, 2002) Vol. 55, No. 5, pp. 480-494.  
print.  
CODEN: JANTAJ. ISSN: 0021-8820.

DT

Article

LA

English

ED

Entered STN: 7 Aug 2002  
Last Updated on STN: 23 Sep 2002

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 IC50 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 & Equipment

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

## IT

Miscellaneous Descriptors  
lipid metabolism

## ORGN

Classifier  
Streptomyces 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)