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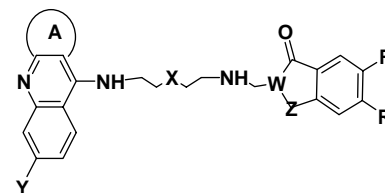
ARTICLES

Donepezil–tacrine hybrid related derivatives as new dual binding site inhibitors of AChE

pp 6588–6597

D. Alonso, I. Dorronsoro, L. Rubio, P. Muñoz, E. García-Palomero, M. Del Monte, A. Bidon-Chanal, M. Orozco, F. J. Luque, A. Castro, M. Medina and A. Martínez*

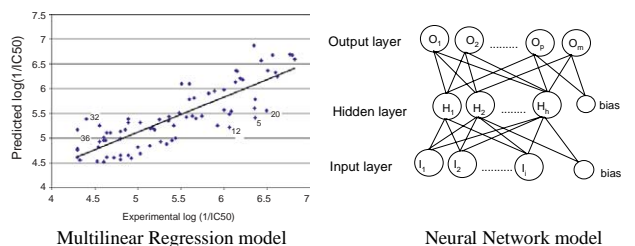
A new series of donepezil–tacrine hybrid related derivatives have been synthesised as dual acetylcholinesterase inhibitors that are able to bind simultaneously to the peripheral and catalytic sites of the enzyme. The designed compounds may simultaneously alleviate cognitive deficits and behave as disease-modifying agents for the treatment of Alzheimer's disease.



QSAR studies on 1-phenylbenzimidazoles as inhibitors of the platelet-derived growth factor

pp 6598–6608

Alan R. Katritzky,* Dimitar A. Dobchev, Dan C. Fara and Mati Karelson



A QSAR treatment has been applied to a data set which consists of 123 1-phenylbenzimidazoles as inhibitors of the PDGF receptor. Two models were obtained: multilinear regression and neural network for log IC₅₀.

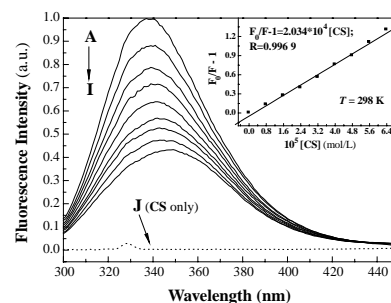
Interaction of cromolyn sodium with human serum albumin:

A fluorescence quenching study

pp 6609–6614

Yan-Jun Hu, Yi Liu,* Zhen-Bang Pi and Song-Sheng Qu

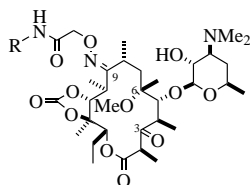
An interaction between cromolyn sodium with human serum albumin was investigated by spectroscopic methods. The thermodynamic parameters at different temperatures and energy transfer parameters are provided.



A new type of ketolides bearing an *N*-aryl-alkyl acetamide moiety at the C-9 iminoether synthesis and structure–activity relationships

pp 6615–6628

Takashi Nomura,* Tsutomu Iwaki, Tatsuro Yasukata, Koichi Nishi, Yukitoshi Narukawa, Koichi Uotani, Toshihiko Hori and Hideaki Miwa

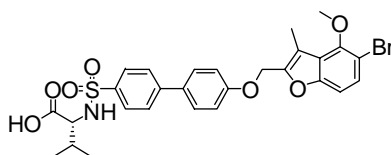


A new type of ketolides, bearing an *N*-aryl-alkyl acetamide moiety at the C-9 iminoether and a cyclic carbonate at the C-11,12 position, was prepared and the antibacterial activities of the compounds were evaluated.

Potent, selective, and orally bioavailable matrix metalloproteinase-13 inhibitors for the treatment of osteoarthritis

pp 6629–6644

Yonghan Hu,* Jason S. Xiang, Martin J. DiGrandi, Xuemei Du, Manus Ipek, Leif M. Laakso, Jianchang Li, Wei Li, Thomas S. Rush, Jean Schmid, Jerauld S. Skotnicki, Steve Tam, Jennifer R. Thomason, Qin Wang and Jeremy I. Levin



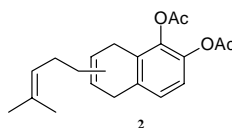
Modification of α -biphenylsulfonamidocarboxylic acids led to potent and selective MMP-13 inhibitors. Compound 16 showed 100% oral bioavailability in rats and demonstrated >50% inhibition of bovine cartilage degradation at 10 ng/mL.



New cytotoxic-antineoplastic prenyl-1,2-naphthohydroquinone derivatives

pp 6645–6650

Aurora Molinari,* Alfonso Oliva, Claudia Ojeda, José M^a Miguel del Corral, M^a Angeles Castro, Carmen Cuevas and Arturo San Feliciano



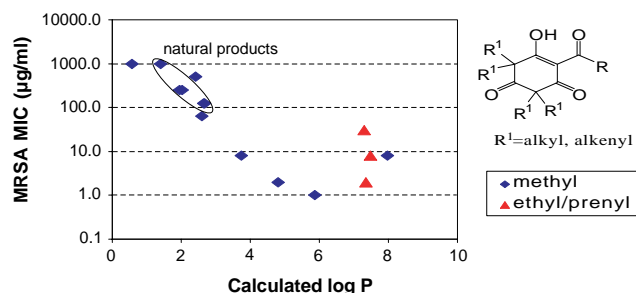
A family of prenyl-1,2-naphthohydroquinone derivatives have been synthesized from the acetylated Diels–Alder product 2, of α -myrcene and 1,2-benzoquinone. This family have been evaluated for their cytotoxicity against A-549, HT-29 and MB-231 neoplastic cell lines.

Triketones active against antibiotic-resistant bacteria: Synthesis, structure–activity relationships, and mode of action

pp 6651–6662

John W. van Klink,* Lesley Larsen, Nigel B. Perry, Rex T. Weavers, Gregory M. Cook, Phil J. Bremer, Andrew D. MacKenzie and Teruo Kirikae

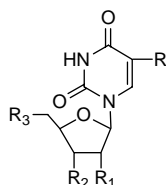
Antibacterial triketones prepared from acylated phloroglucinols showed a range of activities in vitro against MRSA and other drug-resistant bacteria.



Synthesis and in vitro anti-mycobacterial activity of 5-substituted pyrimidine nucleosides

pp 6663–6671

Monika Johar, Tracey Manning, Dennis Y. Kunimoto and Rakesh Kumar*

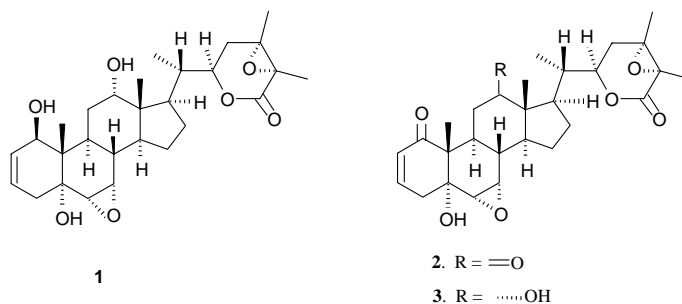


Various 5-substituted unnatural pyrimidine nucleosides were synthesized and investigated as potential inhibitors of mycobacterial growth as anti-tuberculosis agents.

Isolation, characterization and biological evaluation of datura lactones as potential immunomodulators

pp 6672–6677

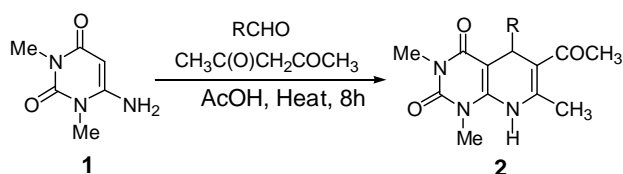
B. A. Bhat, K. L. Dhar,* S. C. Puri, M. A. Qurishi, A. Khajuria, Amit Gupta and G. N. Qazi



Dihydropyrido[2,3-d]pyrimidines as a new class of antileishmanial agents

pp 6678–6684

Anu Agarwal, Ramesh, Ashutosh, Neena Goyal, Prem M. S. Chauhan* and Suman Gupta

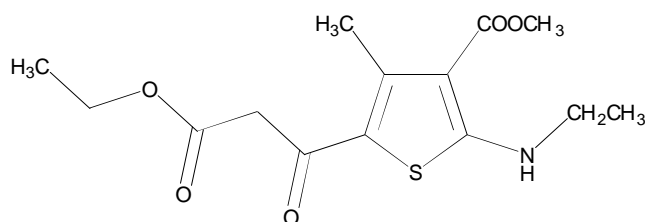


A series of dihydropyrido[2,3-d]pyrimidines has been synthesized and screened for its in vitro antileishmanial activity profile in promastigote and amastigote models.

Tetra substituted thiophenes as anti-inflammatory agents: Exploitation of analogue-based drug design

pp 6685–6692

Ajay D. Pillai, Parendu D. Rathod, Franklin P. Xavier, Harish Padh, Vasudevan Sudarsanam and Kamala K. Vasu*



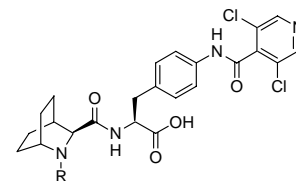
The present study is an example of exploitation of analogue-based drug design, which culminated in the development of good anti-inflammatory agents that have the potential of becoming dual inhibitors.

Aza-bicyclic amino acid carboxamides as $\alpha_4\beta_1/\alpha_4\beta_7$ integrin receptor antagonists

pp 6693–6702

Alexey B. Dyatkin,* Yong Gong, Tamara A. Miskowski, Edward S. Kimball, Stephen M. Prouty, M. Carolyn Fisher, Rosemary J. Santulli, Craig R. Schneider, Nathaniel H. Wallace, Pamela J. Hornby, Craig Diamond, William A. Kinney, Bruce E. Maryanoff, Bruce P. Damiano and Wei He

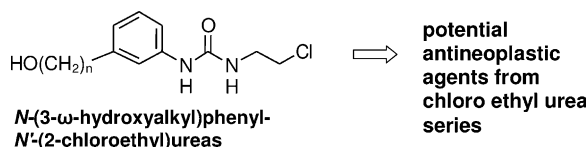
A series of *N*-carboxy, *N*-alkyl, and *N*-carboxamido azabicyclo[2.2.2]octane carboxamides were prepared and assayed for inhibition of $\alpha_4\beta_1$ -VCAM-1 and $\alpha_4\beta_7$ -MAdCAM-1 interactions. Several compounds demonstrated low nanomolar balanced $\alpha_4\beta_1/\alpha_4\beta_7$ in vitro activity. Two compounds were selected for in vivo leukocytosis studies and demonstrated increases in circulating lymphocytes up to 250% over control.

**Optimized *N*-phenyl-*N'*-(2-chloroethyl)ureas as potential antineoplastic agents:**

pp 6703–6712

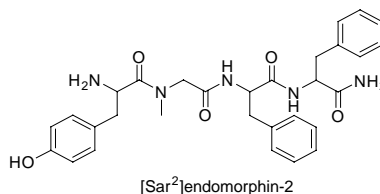
Synthesis and growth inhibition activity

Emmanuel Moreau,* Sébastien Fortin, Michel Desjardins, Jean L. C. Rousseau, Éric Petitclerc and René C.-Gaudreault*

**Synthesis and biological activity of *N*-methylated analogs of endomorphin-2**

pp 6713–6717

Rafal Kruszynski, Jakub Fichna, Jean-Claude do-Rego, Tomasz Janecki, Piotr Kosson, Wanda Pakulska, Jean Costentin and Anna Janecka*

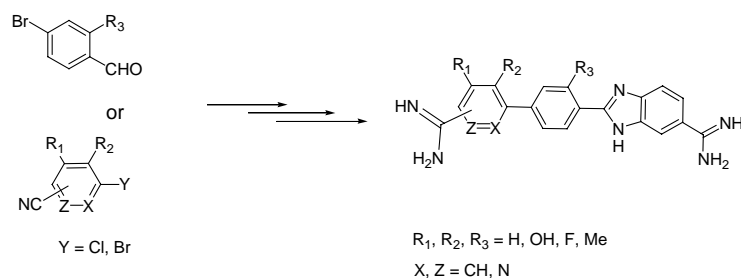


In this paper, we describe the synthesis of a series of endomorphin-2 analogs containing *N*-methylated amino acids. [Sar²]endomorphin-2 had the highest μ -receptor affinity and showed the strongest analgesic effect when administered centrally and peripherally.

Dicationic near-linear biphenyl benzimidazole derivatives as DNA-targeted antiprotozoal agents

pp 6718–6726

Mohamed A. Ismail, Adalgisa Batista-Parra, Yi Miao, W. David Wilson, Tanja Wenzler, Reto Brun and David W. Boykin*

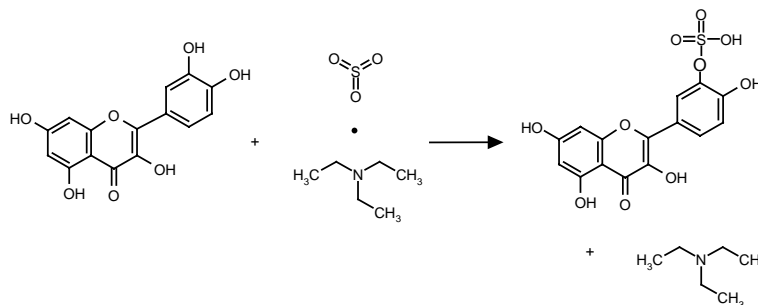


A synthetic approach to the generation of quercetin sulfates and the detection of quercetin 3'-O-sulfate as a urinary metabolite in the rat

pp 6727–6731

Donald J. L. Jones,* Rebekah Jukes-Jones, Richard D. Verschoyle, Peter B. Farmer and Andreas Gescher

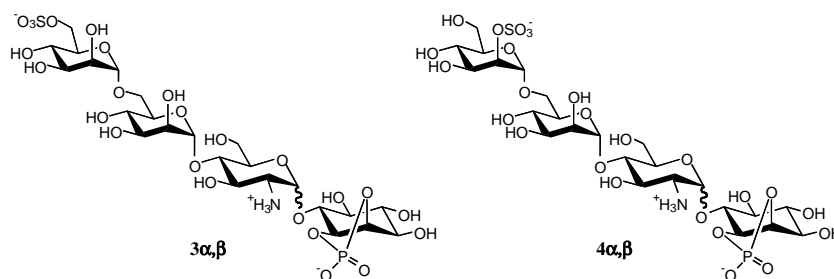
The synthesis and characterization of quercetin sulfate isomers, which are putative metabolites of quercetin, are described herein.



An anionic inositol phosphate glycan pseudotetrasaccharide exhibits high insulin-mimetic activity in rat adipocytes

pp 6732–6741

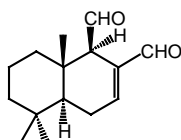
Nilanjana Chakraborty and Marc d'Alarcao*



Multifunctional action of antifungal polygodial against *Saccharomyces cerevisiae*: Involvement of pyrrole formation on cell surface in antifungal action

pp 6742–6747

Ken-ichi Fujita and Isao Kubo*

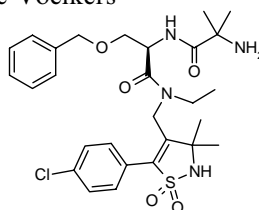


The antifungal activity of polygodial against *Saccharomyces cerevisiae* involves multifunctions. Polygodial acts as a surfactant that nonspecifically disrupts the lipid–protein interface of integral proteins. It enters the cytoplasm by collapsing the membrane barrier and then reacts with l-cystein-containing cytoplasmic materials.

Structure activity studies of the serine-AIB dipeptide domain in 2,3-dihydroisothiazole based growth hormone secretagogues

pp 6748–6762

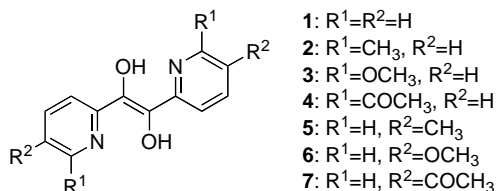
Britta Evers,* Gerd Ruehter, Martina Berg, Jeffrey A. Dodge, Dirk Hankotius, Ulrike Hary, Louis N. Jungheim, Hans-Juergen Mest, Eva-Maria Martin de la Nava, Michael Mohr, Brian S. Muehl, Soenke Petersen, Birgit Sommer, Grit Riedel-Herold, Mark J. Tebbe, Kenneth J. Thrasher and Silke Voelkers



Preparation and antioxidant activity of α -pyridoin and its derivatives

pp 6763–6770

Masashi Hatanaka, Kyoko Takahashi, Shigeo Nakamura and Tadahiko Mashino*



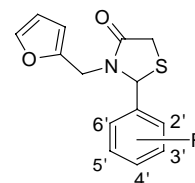
α -Pyridoin (**1**) and its synthetic derivatives **2–7** were prepared and their antioxidant activities were evaluated. The derivatives **5** and **6** showed more excellent activity than ascorbic acid.

2-(Aryl)-3-furan-2-ylmethyl-thiazolidin-4-ones as selective HIV-RT Inhibitors

pp 6771–6776

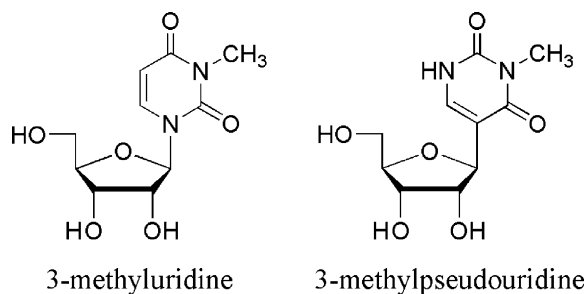
Ravindra K. Rawal, Yenamandra S. Prabhakar, S. B. Katti* and E. De Clercq

In the present study, 4-thiazolidinones have been assembled by DCC-mediated three-component reaction of amine, aldehyde and mercapto acetic acid and tested as HIV-RT inhibitors.

**Solution conformations of two naturally occurring RNA nucleosides: 3-Methyluridine and 3-methylpseudouridine**

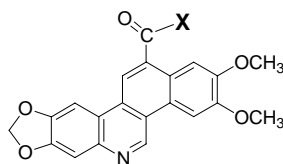
pp 6777–6781

Jean-Paul Desaulniers, Helen M.-P. Chui and Christine S. Chow*

**Esters and amides of 2,3-dimethoxy-8,9-methylenedioxybenzo[*i*]phenanthridine-12-carboxylic acid: Potent cytotoxic and topoisomerase I-targeting agents**

pp 6782–6794

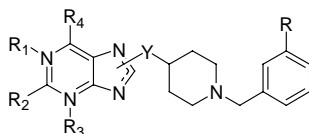
Shejin Zhu, Alexander L. Ruchelman, Nai Zhou, Angela A. Liu, Leroy F. Liu and Edmond J. LaVoie*

Where X = OR, NHR, NR¹R²

Design and synthesis of *N*-benzylpiperidine–purine derivatives as new dual inhibitors of acetyl- and butyrylcholinesterase

pp 6795–6802

María Isabel Rodríguez-Franco,* María Isabel Fernández-Bachiller, Concepción Pérez, Ana Castro and Ana Martínez

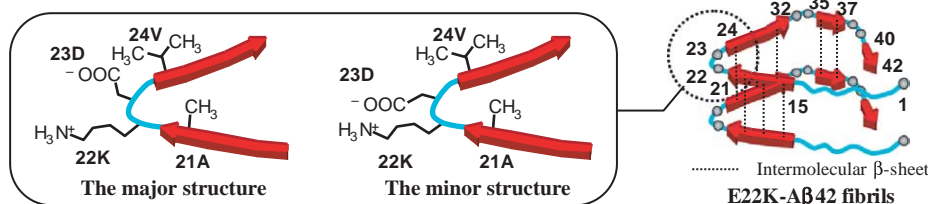


The synthesis of new *N*-benzylpiperidine–purine derivatives and their dual inhibition of acetyl- and butyrylcholinesterase are presented.

Verification of the turn at positions 22 and 23 of the β -amyloid fibrils with Italian mutation using solid-state NMR

pp 6803–6809

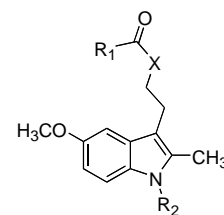
Yuichi Masuda, Kazuhiro Irie,* Kazuma Murakami, Hajime Ohigashi, Ryutaro Ohashi, K. Takegoshi, Takahiko Shimizu and Takuji Shirasawa

**Indolyl esters and amides related to indomethacin are selective COX-2 inhibitors**

pp 6810–6822

Amit S. Kalgutkar, Brenda C. Crews, Sam Saleh, Daniel Prudhomme and Lawrence J. Marnett*

A series of reverse ester/amide derivatives of indomethacin were synthesized and evaluated as selective COX-2 inhibitors. Most of the reverse esters/amides displayed selective, time-dependent COX-2 inhibition in recombinant enzyme systems and in intact cells.



X = O or NH

R₁ = alkyl, aryl, arylalkyl

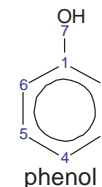
R₂ = 4-Cl-(C₆H₄)-CO or 4-Br-(C₆H₄)-CH₂

Comparative QSAR study of phenol derivatives with the help of density functional theory

pp 6823–6829

F. A. Pasha, H. K. Srivastava and P. P. Singh*

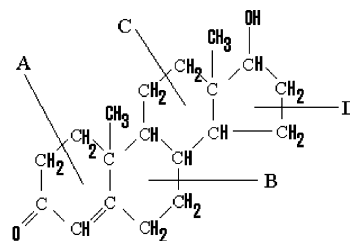
The QSAR study of 50 phenol derivatives against *Tetrahymena pyriformis* is presented with four different methods. The hardness, chemical potential, electrophilicity index, molecular weight, and total energy provide valuable information and have a significant role in the assessment of the toxicity of phenols.



QSAR of the testosterone binding globulin affinity by means of correlation weighting of local invariants of the graph of atomic orbitals

pp 6830–6835

Ivan Raska, Jr. and Andrey Toropov*

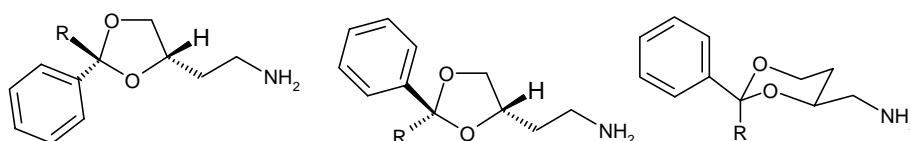


$$\text{TeBG} = F(A, B, C, D)$$

Structure–affinity relationship studies of non-competitive NMDA receptor antagonists derived from dexoxadrol and etoxadrol

pp 6836–6849

Marion Aepkers and Bernhard Wünsch*



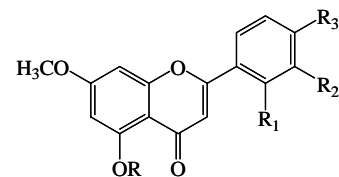
R = H, Et, Ph

Synthesis, growth inhibition, and cell cycle evaluations of novel flavonoid derivatives

pp 6850–6855

Yerra Koteswara Rao, Shih-Hua Fang and Yew-Min Tzeng*

A series of 10 flavonoid derivatives has been synthesized by cyclization of substituted chalcones and evaluated for their biological activity. Among them, compounds **1–4** and **9** displayed significant growth inhibitory action against a panel of tumor cell lines including Jurkat, PC-3, and Colon 205. On treatment with an equitoxic (IC_{50}) concentration, compounds **1–5** and **7–9** blocked cells in the G2/M phase of the Jurkat cell cycle, whereas compound **6** blocked the same in the G0/G1 phase.

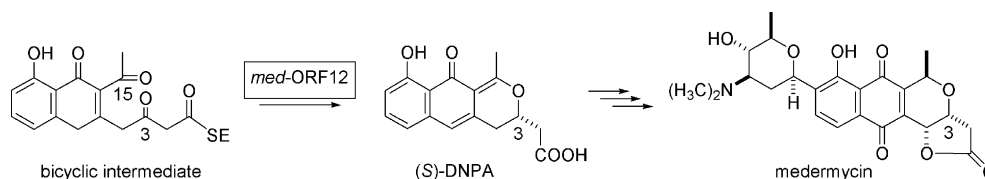


2. R = Me, $\text{R}_1 = \text{H}$, $\text{R}_2, \text{R}_3 = -\text{OCH}_2\text{O}-$
9. R, $\text{R}_3 = \text{H}$, $\text{R}_1, \text{R}_2 = \text{OMe}$

Functional studies on a ketoreductase gene from *Streptomyces* sp. AM-7161 to control the stereochemistry in medermycin biosynthesis

pp 6856–6863

Aiying Li, Takayuki Itoh, Takaaki Taguchi, Ting Xiang,
 Yutaka Ebizuka and Koji Ichinose*



By functional complementation and co-expression, medermycin biosynthetic gene, *med-ORF12*, was proved to encode a stereospecific reductase to control the stereochemistry at C-3 of the pyran ring.

OTHER CONTENTS

Contributors to this issue

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Summary of instructions to authors 2005

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*Corresponding author

 Supplementary data available via ScienceDirect**COVER**

2005: Human liver glycogen phosphorylase A (HLGPa) is an attractive target enzyme for discovering anti-type 2 diabetes drugs. This picture shows the interaction model for a series of indole-2-carboxamides to HLGPa derived from molecular docking simulations [Liu, G.; Zhang, Z.; Luo, X.; Shen, J.; Liu, H.; Shen, X.; Chen, K.; Jiang, H. *Bioorg. Med. Chem.* **2004**, *12*, 4147–4157].



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