

# Bioorganic & Medicinal Chemistry Letters Vol. 16, No. 2, 2006

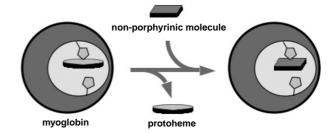
### **Contents**

#### **ARTICLES**

Non-covalent modification of the heme-pocket of apomyoglobin by a 1,10-phenanthroline derivative Yutaka Hitomi,\* Hidefumi Mukai, Hideaki Yoshimura, Tsunehiro Tanaka and Takuzo Funabiki

pp 248-251

To expand the repertoire of artificial enzymes constructed by replacement of prosthetic groups of hemoproteins, we examined incorporation of a non-porphyrinic ligand, a water-soluble 1,10-phenanthroline derivative (1), into the heme-pocket of apomyoglobin. Strong incorporation of  $\bf 1$  into the heme cavity of apomyoglobin greatly suppresses the hydrolytic activity of apomyoglobin toward p-nitrophenyl hexanoate.



# Synthesis and biological evaluation of novel pyrrolo[2,1-c][1,4]benzodiazepine prodrugs for use in antibody-directed enzyme prodrug therapy

pp 252-256

Luke A. Masterson, Victoria J. Spanswick, John A. Hartley, Richard H. Begent, Philip W. Howard and David E. Thurston\*

Four novel pyrrolo[2,1-c][1,4]benzodiazepine prodrugs (1a,b and 2a,b) have been synthesized for potential use in carboxypeptidase G2 (CPG2)-based ADEPT therapy. The urea prodrugs (1b and 2b) are relatively unstable but the carbamate prodrugs (1a and 2a) are both stable in an aqueous environment and are good substrates for CPG2.

# Design, synthesis, and vasorelaxant and platelet antiaggregatory activities of coumarin-resveratrol hybrids

pp 257-261

Santiago Vilar,\* Elías Quezada, Lourdes Santana, Eugenio Uriarte, Matilde Yánez, Nuria Fraiz, Carlos Alcaide, Ernesto Cano and Francisco Orallo

### Pyrazoloheteroaryls: Novel p38a MAP kinase inhibiting scaffolds with oral activity

pp 262-266

Laszlo Revesz,\* Ernst Blum, Franco E. Di Padova, Thomas Buhl, Roland Feifel, Hermann Gram, Peter Hiestand, Ute Manning, Ulf Neumann and Gerard Rucklin

A test library with three novel p38α inhibitory scaffolds and a narrow set of substituents was prepared. Appropriate combination of substituents and scaffolds generated potent p38α inhibitors, for example, pyrazolo[3,4-b]pyridine 9, pyrazolo[3,4-d]pyrimidine 18a and pyrazolo[3,4-b]pyrazine 23b with potent in vivo activity upon oral administration in animal models of rheumatoid arthritis.

### Biphenyl-4-ylcarbamoyl thiophene carboxylic acids as potent DHODH inhibitors

pp 267-270

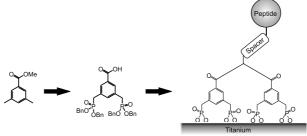
Johann Leban,\* Martin Kralik, Jan Mies, Roland Baumgartner, Michael Gassen and Stefan Tasler

A previously discovered DHODH inhibitor series was improved by replacing a cyclopentene ring by aromatic heterocycles. The compounds were prepared by the directed *ortho*-metallation procedure. Inhibitory activities were in the low nanomolar range and the compounds show potent immunosuppressive effects on stimulated PBMC's.

## Benzylprotected aromatic phosphonic acids for anchoring peptides on titanium

pp 271-273

Jörg Auernheimer and Horst Kessler\*



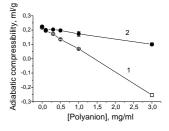
Cyclic RDG-peptides were anchored on titanium with phosphonic acids, protected as benzylesters during synthesis, to enhance osteoblast adhesion.

# Specific volume and compressibility of human serum albumin-polyanion complexes

pp 274-279

Tibor Hianik,\* Slavomíra Poniková, Jaroslava Bágel'ová and Marián Antalík

The ultrasound velocimetry, densitometry, and differential scanning calorimetry have been used to study the formation of the complexes between human serum albumin (HSA) and polyanions heparin (HEP) and/or dextran sulfate (DS). Adiabatic compressibility and phase transition temperature of HSA decreased with increasing concentration of HEP (1) and DS (2). Changes of compressibility can be caused by increase of the hydration due formation of the HSA–polyanion complexes and due to partial unfolding of HSA. HEP more strongly interacts with HSA then DS.



### 4-Substituted cyclohexyl sulfones as potent, orally active $\gamma$ -secretase inhibitors

pp 280-284

Ian Churcher,\* Dirk Beher, Jonathan D. Best, José L. Castro, Earl E. Clarke, Amy Gentry, Timothy Harrison, Laure Hitzel, Euan Kay, Sonia Kerrad, Huw D. Lewis, Pablo Morentin-Gutierrez, Russell Mortishire-Smith, Paul J. Oakley, Michael Reilly, Duncan E. Shaw, Mark S. Shearman, Martin R. Teall, Susie Williams and Jonathan D. J. Wrigley

Studies leading to the identification of the orally active  $\gamma$ -secretase inhibitor **32** are described. This compound demonstrated lowering of central A $\beta$ (40) in a rodent model with a MED of 1 mg/kg.

# Synthesis and antiviral activity of 7-deazaneplanocin A against orthopoxviruses (vaccinia and cowpox virus)

pp 285-287

Balakumar Arumugham, Hyo-Joong Kim, Mark N. Prichard, Earl R. Kern and Chung K. Chu\*

7-Deazaneplanocin A

The synthesis of the 7-deazaneplanocin A 2 is reported. The synthesized nucleoside exhibited antiviral activity against orthopox viruses (vaccinia and cowpox virus).

# 5-Heteroatom substituted pyrazoles as canine COX-2 inhibitors. Part 1: Structure–activity relationship studies of 5-alkylamino pyrazoles and discovery of a potent, selective, and orally active analog

pp 288-292

Subas M. Sakya,\* Kristin M. Lundy DeMello, Martha L. Minich, Bryson Rast, Andrei Shavnya, Robert J. Rafka, David A. Koss, Hengmiao Cheng, Jin Li, Burton H. Jaynes, Carl B. Ziegler, Donald W. Mann, Carol F. Petras, Scott B. Seibel, Annette M. Silvia, David M. George, Lisa A. Lund, Suzanne St. Denis, Anne Hickman, Michelle L. Haven and Michael P. Lynch

Structure–activity relationship studies of the novel 2-[3-di and trifluoromethyl-5-alkylamino pyrazo-1-lyl]-5-methanesulfonyl ( $SO_2Me$ )/5-sulfamoyl ( $SO_2NH_2$ )-pyridine derivatives for canine COX enzymes led to **2e** as the lead with desired in vitro activity, selectivity for canine and feline COX-2 enzyme and in vivo efficacy.

## 4-Hydroxyisoleucine an unusual amino acid as antidyslipidemic and antihyperglycemic agent

pp 293–296

Tadigoppula Narender,\* Anju Puri, Shweta, Tanvir Khaliq, Rashmi Saxena, Geetika Bhatia and Ramesh Chandra

4-Hydroxy isoleucine: 5

### Substituted indanylacetic acids as PPAR-α-γ activators

pp 297-301

Derek B. Lowe,\* Neil Bifulco, William H. Bullock, Thomas Claus, Philip Coish, Miao Dai, Fernando E. Dela Cruz, David Dickson, Dongping Fan, Helana Hoover-Litty, Tindy Li, Xin Ma, Gretchen Mannelly, Mary-Katherine Monahan, Ingo Muegge, Stephen O'Connor, Mareli Rodriguez, Tatiana Shelekhin, Andreas Stolle, Laurel Sweet, Ming Wang, Yamin Wang, Chengzhi Zhang, Hai-Jun Zhang, Mingbao Zhang, Kake Zhao, Qian Zhao, Jian Zhu, Lei Zhu and Manami Tsutsumi

 $R^4$   $R^3$   $R^2$  O O

A series of substituted indanylacetic acids were prepared which showed a spectrum of agonist activity against PPAR nuclear receptor subtypes.

# Novel 1,3-dipropyl-8-(1-heteroarylmethyl-1H-pyrazol-4-yl)-xanthine derivatives as high affinity and selective $A_{2B}$ adenosine receptor antagonists

pp 302-306

Elfatih Elzein,\* Rao Kalla, Xiaofen Li, Thao Perry, Eric Parkhill, Venkata Palle, Vaibahv Varkhedkar, Art Gimbel, Dewan Zeng, David Lustig, Kwan Leung and Jeff Zablocki

$$\begin{array}{c|c}
 & X \\
 & X \\
 & X \\
 & Y - Z
\end{array}$$

We describe the synthesis and biological activities of novel adenosine  $A_{2B}$  receptor antagonists.

#### A new chemical tool for exploring the physiological function of the PDE2 isozyme

pp 307-310

Robert J. Chambers,\* Kristin Abrams, Norman Y. Garceau, Ajith V. Kamath, Christopher M. Manley, Susan C. Lilley, Douglas A. Otte, Dennis O. Scott, Alissa L. Sheils, David A. Tess, A. Samuel Vellekoop, Yan Zhang and Kelvin T. Lam

Oxindole (2) is a potent and selective PDE2 inhibitor with a favorable ADME, physiochemical and pharmacokinetic profile to allow for use as a chemical tool in elucidating the physiological role of PDE2.

### Synthesis and biological evaluation of biphenylsulfonamide carboxylate aggrecanase-1 inhibitors

pp 311-316

Jason S. Xiang, Yonghan Hu,\* Thomas S. Rush, Jennifer R. Thomason, Manus Ipek, Phaik-Eng Sum, Leila Abrous, Joshua J. Sabatini, Katy Georgiadis, Erica Reifenberg, Manas Majumdar, Elisabeth A. Morris and Steve Tam

The synthesis and evaluation of biphenylsulfonamidocarboxylic acid inhibitors of aggrecanase-1 are reported. Compound 24 demonstrated 89% inhibition of proteoglycan degradation at 10 µg/mL and has an oral bioavailability in rat of 35%.

### Synthesis and biological activities of nucleoside-estradiol conjugates

Hasrat Ali, Naseem Ahmed, Guillaume Tessier and Johan E. van Lier\*

#### pp 317-319

$$\bigcup_{n=1}^{\infty} C = C_{(n)} \bigcup_{n=1}^{\infty} NR^{1}$$

Nucleosides were coupled to estradiol via a  $17\alpha$ -ethynyl spacer group using Pd(II) as a catalyst and evaluated in vitro for estrogen receptor binding affinity and cytotoxicity.

### Leptostatin: A synthetic hybrid of the cytotoxic polyketides callystatin A and leptomycin B

pp 320-323

James A. Marshall,\* Ann M. Mikowski, Matthew P. Bourbeau, Gregory M. Schaaf and Frederick Valeriote

Cytotoxicity Toward HCT-116 Cells

compound	IC <sub>50</sub> , nM <sup>a</sup>
leptostatin-1	3.0
leptostatin-2	2.0
leptostatin-3	0.2
leptostatin-4	30
callystatin A	0.03
omo ao of tru o do	tomoinotiono

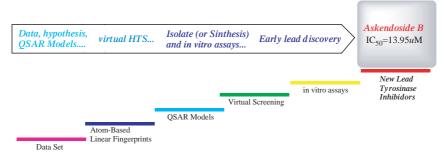
Four stereoisomeric hybrids of the antitumor natural products callystatin A and leptomycin B have been prepared by total synthesis and evaluated as cytotoxic agents toward H-116 human colon cancer cells.



#### New tyrosinase inhibitors selected by atomic linear indices-based classification models

pp 324-330

Gerardo M. Casañola-Martín, Mahmud Tareq Hassan Khan, Yovani Marrero-Ponce,\* Arjumand Ather, Mukhlis N. Sultankhodzhaev and Francisco Torrens





# PET imaging and optical imaging with D-luciferin [11C|methyl ester and D-luciferin [11C|methyl ether of luciferase gene expression in tumor xenografts of living mice

pp 331-337

Ji-Quan Wang, Karen E. Pollok, Shanbao Cai, Keith M. Stantz, Gary D. Hutchins and Qi-Huang Zheng \*

D-luciferin [ $^{11}$ C]methyl ester ([ $^{11}$ C]LMEster, [ $^{11}$ C]1) D-luciferin [ $^{11}$ C]methyl ether ([ $^{11}$ C]LMEther, [ $^{11}$ C]2)

# Structure-based design of novel groups for use in the P1 position of thrombin inhibitor scaffolds. Part 1: Weakly basic azoles

pp 338-342

Richard C. A. Isaacs,\* Mark G. Solinsky, Kellie J. Cutrona, Christina L. Newton, Adel M. Naylor-Olsen, Julie A. Krueger, S. Dale Lewis and Bobby J. Lucas

Imidazoles and aminothiazoles, in spite of their weak basicity, have been optimized to function as potent P1 ligands in both a peptide series and a nonpeptide series of noncovalent small molecule thrombin inhibitors.

# Design, synthesis and structure-activity relationships of new phosphinate inhibitors of MurD

pp 343-348

Katja Štrancar, Didier Blanot and Stanislav Gobec \*

A series of new inhibitors of the D-glutamic acid-adding enzyme (MurD) is presented. Two compounds (12g and 12c) had  $IC_{50}$  values near 100  $\mu$ M and constitute a promising starting point for further development.

# Discovery of N-(2-aryl-cyclohexyl) substituted spiropiperidines as a novel class of GlyT1 inhibitors

pp 349-353

Emmanuel Pinard,\* Simona M. Ceccarelli, Henri Stalder and Daniela Alberati

Screening of the Roche compound library led to the identification of *cis-N-*(2-phenyl-cyclohexyl)-spiropiperidine **1** as structurally novel GlyT1 inhibitor. The SAR, which was developed in this series, resulted in the discovery of highly potent compounds displaying excellent selectivity against the GlyT2 isoform.

# Discovery of N-(2-hydroxy-2-aryl-cyclohexyl) substituted spiropiperidines as GlyT1 antagonists with improved pharmacological profile

pp 354-357

Simona M. Ceccarelli,\* Emmanuel Pinard, Henri Stalder and Daniela Alberati

During SAR exploration of *N*-(2-aryl-cyclohexyl) substituted spiropiperidine as GlyT1 inhibitors, it was found that introduction of a hydroxy group in position 2 of the cyclohexyl residue considerably improves the pharmacological profile. In particular, reduction of the binding affinity at the nociceptin/orphanin FQ peptide and the μ opioid receptors was achieved.

GlyT1 EC $_{50}$  ( $\mu$ M): 0.073 NOP IC $_{50}$  ( $\mu$ M): 0.310  $\mu$  IC $_{50}$  ( $\mu$ M): 0.520

GlyT1 EC $_{50}$  ( $\mu$ M): 0.044 NOP IC $_{50}$  ( $\mu$ M): 15  $\mu$  IC $_{50}$  ( $\mu$ M): 2.7

### Dipeptide-based highly potent doxorubicin antibody conjugates

pp 358-362

Scott C. Jeffrey,\* Minh T. Nguyen, Jamie B. Andreyka, Damon L. Meyer, Svetlana O. Doronina and Peter D. Senter

# Biomimetic synthesis and ultrastructural characterization of a zerovalent gold-hydroxyapatite composite

pp 363-366

Yogita Gupta, G. N. Mathur\* and Sandeep Verma\*

Use of polymer AP-1 for modulated synthesis of apatitic composites is reported.

#### Synthesis and biological activity of the first cyclic biphalin analogues

pp 367-372

Adriano Mollica, Peg Davis, Shou-Wu Ma, Frank Porreca, Josephine Lai and Victor J. Hruby\*

Design, synthesis, and biological evaluation of the first cyclic biphalin analogues are reported. D-Alanine residues in positions 2, 2' of the parent peptide were replaced by D- and L-cysteine and an intramolecular disulfide bridge has been established. Two cyclic biphalin analogues, with quite different biological profiles, have been described.

# Potent anti-muscarinic activity in a novel series of quinuclidine derivatives

pp 373-377

Jean-Philippe Starck, Patrice Talaga, Luc Quéré, Philippe Collart, Bernard Christophe, Patrick Lo Brutto, Sophie Jadot, Dinesh Chimmanamada, Matteo Zanda, Alain Wagner, Charles Mioskowski, Roy Massingham and Michel Guyaux\*

The synthesis and biological evaluation of a novel family of M<sub>3</sub> muscarinic antagonists are described. A systematic modification of the substituents to a novel alkyne-quinuclidine scaffold yielded original compounds displaying potent in vitro anticholinergic properties.

#### The identification of potent and selective imidazole-based inhibitors of B-Raf kinase

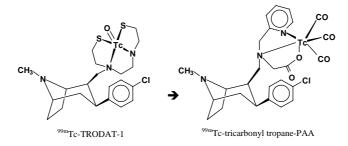
pp 378-381

Andrew K. Takle,\* Murray J. B. Brown, Susannah Davies, David K. Dean, Gerraint Francis, Alessandra Gaiba, Alex W. Hird, Frank D. King, Peter J. Lovell, Antoinette Naylor, Alastair D. Reith, Jon G. Steadman and David M. Wilson

SB-590885 (33)

A novel triarylimidazole derivative, SB-590885 (33), bearing a 2,3-dihydro-1*H*-inden-1-one oxime substituent has been identified as a potent and extremely selective inhibitor of B-Raf kinase.

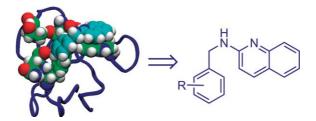
# Synthesis and biological evaluation of a technetium-99m(I)-tricarbonyl-labelled phenyltropane derivative pp 382–386 Davy M. Kieffer, Bernard J. Cleynhens, Hubert P. Vanbilloen, Dirk Rattat, Christelle Y. Terwinghe, Luc Mortelmans, Guy M. Bormans and Alfons M. Verbruggen\*



# Synthesis of N-benzylated-2-aminoquinolines as ligands for the Tec SH3 domain

pp 387-390

Steven R. Inglis, Rhiannon K. Jones, Grant W. Booker and Simon M. Pyke\*



The synthesis of N-benzylated-2-aminoquinolines for ligand binding studies with the Tec SH3 domain is described.

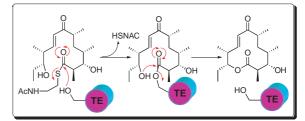


# Macrolactonization to 10-deoxymethynolide catalyzed by the recombinant thioesterase of the picromycin/methymycin polyketide synthase

pp 391-394

Weiguo He, Jiaquan Wu, Chaitan Khosla and David E. Cane\*

The recombinant thioesterase (TE) domain of the picromycinmethymycin synthase (PICS) catalyzes the macrolactonization of 3, the *N*-acetylcysteamine thioester of seco-10-deoxymethynolide, to generate 10-deoxymethynolide (1) with high efficiency. The recombinant TE domain of 6-deoxyerythronolide B synthase (DEBS TE) shows the same reaction specificity as PICS TE, but with significantly lower activity.





### Novel histamine H<sub>3</sub> receptor antagonists based on the 4-[(1*H*-imidazol-4-yl)methyl|piperidine scaffold

pp 395-399

Wayne D. Vaccaro, Rosy Sher, Michael Berlin,\* Neng-Yang Shih, Robert Aslanian, John H. Schwerdt, Kevin D. McCormick, John J. Piwinski, Robert E. West, Jr., John C. Anthes, Shirley M. Williams, Ren-Long Wu, H. Susan She, Maria A. Rivelli, Jennifer C. Mutter, Michel R. Corboz, John A. Hey and Leonard Favreau

We report the discovery of novel histamine  $H_3$  receptor antagonists based on 4-[(1*H*-imidazol-4-yl)methyl]piperidine. The most potent compounds in the series (e.g., 7) result from the attachment of a substituted aniline amide to the main pharmacophore piperidine via a two-methylene linker

### Synthesis and antibacterial activity of 9-substituted minocycline derivatives

Phaik-Eng Sum,\* Adma T. Ross, Peter J. Petersen and Raymond T. Testa

Novel sulfonamide and acylamino derivatives of minocycline were synthesized. Many of these derivatives exhibited potent antibacterial activity against tetracycline- and minocycline-resistant Gram-positive pathogens.

# N-(4-{[4-(1H-Benzoimidazol-2-yl)-arylamino]-methyl}-phenyl)-benzamide derivatives as small molecule heparanase inhibitors

pp 404-408

pp 400-403

Yong-Jiang Xu, Hua-Quan Miao,\* Weitao Pan, Elizabeth C. Navarro, James R. Tonra, Stan Mitelman, M. Margarita Camara, Dhanvanthri S. Deevi, Alexander S. Kiselyov, Paul Kussie, Wai C. Wong and Hu Liu\*

The development of small molecule heparanase inhibitor 23 (IC<sub>50</sub> = 0.29  $\mu$ M) is reported.

# $1-[4-(1H-{\rm Benzoimidazol-2-yl})-{\rm phenyl}]-3-[4-(1H-{\rm benzoimidazol-2-yl})-{\rm phenyl}]-{\rm urea\ derivatives\ as\ small\ molecule\ heparanase\ inhibitors}$

pp 409-412

Weitao Pan, Hua-Quan Miao,\* Yong-Jiang Xu, Elizabeth C. Navarro, James R. Tonra, Erik Corcoran, Armin Lahiji, Paul Kussie, Alexander S. Kiselyov, Wai C. Wong and Hu Liu\*

IC50 0.27 uM

The development of small molecule heparanase inhibitor 7a (IC<sub>50</sub> = 0.27  $\mu$ M) is reported.

### Synthesis and antibacterial activity of substituted 1,2,3,4-tetrahydropyrazino [1,2-a] indoles

pp 413-416

Rakesh Kumar Tiwari, Devender Singh, Jaspal Singh, Vibha Yadav, Ajay K. Pathak, Rajesh Dabur, Anil K. Chhillar, Rambir Singh, G. L. Sharma, Ramesh Chandra\* and Akhilesh K. Verma\*

A series of substituted pyrazino [1,2-a] indoles were synthesized and evaluated for their antibacterial activity. Compounds **4d**–**f** showed potent antibacterial activity. The percent lysis of erythrocytes induced by concentration up to 500 µg/ml of gentamycin was not significantly different than that of compounds. However, at higher doses the difference in toxicity was significant.

**4a-i**  $R=CH_3$ ,  $R^2=H$ ,  $R^1=C_6H_5$ ,  $p\text{-BrC}_6H_4$ ,  $m\text{-CIC}_6H_4$ ,  $p\text{-FC}_6H_4$ ,  $p\text{-MeC}_6H_4$ ,  $p\text{-NO}_2C_6H_4$ ,  $m\text{-MeOC}_6H_4$ , 2-pyridyl, 2-thienyl

**5-9** R = CH<sub>3</sub>, R<sup>1</sup>= H, R<sup>2</sup>=CH<sub>2</sub>Bt, CH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>, p-MeC<sub>6</sub>H<sub>4</sub>,CH<sub>2</sub>CN, CH<sub>2</sub>PO(OEt)<sub>2</sub>, CH<sub>3</sub> **11a-b** R=H, R<sup>3</sup>=CH<sub>3</sub>, C<sub>6</sub>H<sub>5</sub>

# Stereoselective synthesis and glycosidase inhibitory activity of 3,4-dihydroxy-pyrrolidin-2-one, 3,4-dihydroxy-piperidin-2-one and 1,2-dihydroxy-pyrrolizidin-3-one

pp 417-420

Philippe Coutrot, Stéphanie Claudel, Claude Didierjean and Claude Grison\*

 $[\alpha]_D^{20} = -32.4$  (c 0.5, CHCl<sub>3</sub>) Source of chirality: asymmetric synthesis. Absolute configuration: (1S,2S,7aS). Inhibition of  $\alpha$ -glucosidase from yeast: 45% at 1 mM.

# Synthesis and biological evaluation of 3-ethylidene-1,3-dihydro-indol-2-ones as novel checkpoint 1 inhibitors

pp 421-426

Nan-Horng Lin,\* Ping Xia, Peter Kovar, Chang Park, Zehan Chen, Haiying Zhang, Saul H. Rosenberg and Hing L. Sham

$$Ar_1 \qquad \qquad \begin{matrix} Ar_2 \\ N \\ H \end{matrix}$$

Analogs of compound 1 were synthesized and tested in vitro for checkpoint 1 kinase inhibitory activities.

# Aza-analogues of the marine pyrroloquinoline alkaloids wakayin and tsitsikammamines: Synthesis and topoisomerase inhibition

pp 427-429

Laurent Legentil, Brigitte Lesur and Evelyne Delfourne\*

### Metalloantimalarials: Synthesis, X-ray crystal structure of potent antimalarial copper (II) complex of arylazo-4-hydroxy-1,2-naphthoquinone

Nikhil H. Gokhale, K. Shirisha, Subhash B. Padhye,\* Simon L. Croft, Howard D. Kendrick and Vickie Mckee

The crystal structure of copper (II) complex of 3-arylazo-4hydroxy-1,2-naphthoquinone is reported with potent antimalarial activity (ED<sub>50</sub> =  $3.5 \mu g/ml$ ).

## Synthesis and interactions of 7-deoxy-, 10-deacetoxy, and 10-deacetoxy-7-deoxypaclitaxel with NCI/ADR-RES cancer cells and bovine brain microvessel endothelial cells

Haibo Ge, Veena Vasandani, Jacquelyn K. Huff, Kenneth L. Audus, Richard H. Himes,

Anna Seelig and Gunda I. Georg\*

7-Deoxypaclitaxel, 10-deacetoxypaclitaxel, and 10-deactoxy-7-deoxypaclitaxel were prepared and evaluated for their ability to promote assembly of tubulin into microtubules, their cytotoxicity against NCI/ADR-RES cells, and their interactions with P-glycoprotein in bovine brain microvessel endothelial cells. The three compounds were essentially equivalent to paclitaxel in cytotoxicity against NCI/ADR-RES cells. They also appeared to interact with P-glycoprotein in the endothelial cells with the two 10-deacetoxy compounds having less interaction than paclitaxel and 7-deoxypaclitaxel.

## Carbonic anhydrase inhibitors: Valdecoxib binds to a different active site region of the human isoform II as compared to the structurally related cyclooxygenase II 'selective' inhibitor celecoxib

pp 437-442

pp 433-436

Anna Di Fiore, Carlo Pedone, Katia D'Ambrosio, Andrea Scozzafava, Giuseppina De Simone\* and Claudiu T. Supuran\*

# Design of novel hexahydropyrazinoquinolines as potent and selective dopamine D<sub>3</sub> receptor ligands with improved solubility

pp 443-446

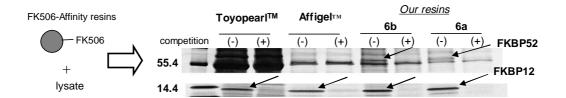
Jianyong Chen, Ke Ding, Beth Levant and Shaomeng Wang\*

 $K_i = 9.7 \text{ nM}$  to the  $D_3$  receptor Selectivities of >5000 and 466 times over the D<sub>1</sub>-like and D<sub>2</sub>-like receptors

# Development of chemically stable solid phases for the target isolation with reduced nonspecific binding proteins

pp 447-450

Teruki Takahashi, Takaaki Shiyama, Ken Hosoya and Akito Tanaka\*





# Identification of Darmstoff analogs as selective agonists and antagonists of lysophosphatidic acid receptors

pp 451-456

Veeresa Gududuru, Kui Zeng, Ryoko Tsukahara, Natalia Makarova, Yuko Fujiwara, Kathryn R. Pigg, Daniel L. Baker, Gabor Tigyi and Duane D. Miller\*

# Design and synthesis of 3,4-dihydro-1*H*-[1]-benzothieno[2,3-*c*]pyran and 3,4-dihydro-1*H*-pyrano[3,4-*b*]benzofuran derivatives as non-nucleoside inhibitors of HCV NS5B RNA dependent RNA polymerase

pp 457-460

Ariamala Gopalsamy,\* Alexis Aplasca, Gregory Ciszewski, Kaapjoo Park, John W. Ellingboe, Mark Orlowski, Boris Feld and Anita Y. M. Howe

A novel class of HCV NS5B RNA dependent RNA polymerase inhibitors containing 3,4-dihydro-1*H*-[1]-benzothieno [2,3-*c*]pyran and 3,4-dihydro-1*H*-pyrano[3,4-*b*]benzofuran scaffolds and their structure–activity relationship are described.



#### QSAR analysis of meclofenamic acid analogues as selective COX-2 inhibitors

pp 461-468

Tamanna Narsinghani \* and S. C. Chaturvedi

Quantitative structure–activity relationship studies on a series of meclofenamic acid analogues revealed the importance of molecular flexibility and number of hydrogen bond donor atoms for COX-2 and COX-1 inhibitory activities, respectively.

# Acryloylamino-salicylanilides as EGFR PTK inhibitors

pp 469-472

Wei Deng, Zongru Guo,\* Yanshen Guo, Zhiqiang Feng, Yi Jiang and Fengming Chu

$$R^3$$
  $R^2$ 

A series of EGFR PTK inhibitors with an acrylamido moiety at the 4- or 5-position of salicylanilides were synthesized and tested for their inhibitory activity toward the EGFR tyrosine kinase.

### **OTHER CONTENTS**

Corrigendum p 473

Summary of instructions to authors

рI

\*Corresponding author

\*\* Supplementary data available via ScienceDirect

#### **COVER**

View of the crystal structure of the DB819-d(CGCGAATTCGCG)<sub>2</sub> complex, looking down the minor groove of the DNA (see Campbell, N.H.; Evans, D.A.; Lee, M.P.H.; Parkinson, G.N.; Neidle, S. *Bioorg. Med. Chem. Lett.* **2006**, *16*, 15.). The DB819 molecule is shown in space-filling mode. Visualisation produced with the VMD program. [Humphrey, W.; Dalke, A.; Schulten, K. *J. Mol. Graphics* **1996**, *14*, 33.]



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