Graphical Abstracts

Bioorg. Med. Chem. Lett. 13 (2003) 9

Antiviral Activity of Cyclopentenyl Nucleosides Against Orthopox Viruses (Smallpox, Monkeypox and Cowpox)

C. K. Chu,[a,*] Y. H. Jin,[a] R. O. Baker[b] and J. Huggins[b]

[a]*Department of Pharmaceutical and Biomedical Science, College of Pharmacy, The University of Georgia, Athens, GA 30602, USA*
[b]*US Army Medical Research Institute of Infectious Diseases, Ft Detrick, MD 21702, USA*

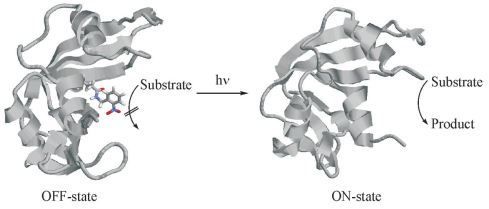
An improved method for the synthesis of enantiomerically pure D-cyclopentenyl nucleosides has been accomplished and their antiviral activity against orthopox viruses have been evaluated.

Bioorg. Med. Chem. Lett. 13 (2003) 13

Caged RNase: Photoactivation of the Enzyme from Perfect Off-State by Site-Specific Incorporation of 2-Nitrobenzyl Moiety

Takashi Hiraoka and Itaru Hamachi*

Institute for Fundamental Research of Organic Chemistry (IFOC), Department of Chemistry and Biochemistry, Graduate School of Engineering, Kyushu University, Fukuoka 812-8581, Japan



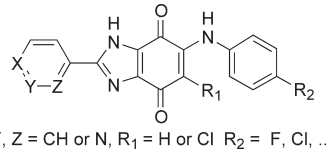
Bioorg. Med. Chem. Lett. 13 (2003) 17

Synthesis and Antifungal Activity of 2,5-Disubstituted-6-arylamino-4,7-benzimidazolediones

Chung-Kyu Ryu,* Eun-Ha Song, Ju-Yeon Shim, Hea-Jung You, Ko Un Choi, Ik Hwa Choi, Eun Young Lee and Mi Jin Chae

College of Pharmacy, Ewha Womans University, Seodaemun-ku, Seoul 120-750, South Korea

2,5-Disubstituted-6-arylamino-4,7-benzimidazolediones were synthesized and tested for in vitro antifungal activity against pathogenic fungi. Among them, 6-arylamino-2-(2-pyridyl)-4,7-benzimidazolediones exhibited potent antifungal activity.



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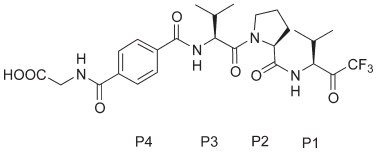
True Interaction Mode of Porcine Pancreatic Elastase with FR136706, a Potent Peptidyl Inhibitor

Takayoshi Kinoshita,[a,*] Isao Nakanishi,[a] Akihiro Sato[b] and Toshiji Tada[c]

[a]*Exploratory Research Laboratories, Fujisawa Pharmaceutical Co. Ltd., 5-2-3, Tokodai, Tsukuba, Ibaraki 300-2698, Japan*
[b]*Analytical Research Laboratories, Fujisawa Pharmaceutical Co. Ltd., 5-2-3, Tokodai, Tsukuba, Ibaraki 300-2698, Japan*
[c]*Research Institute for Advanced Science and Technology, Osaka Prefecture University, Sakai, Osaka 593-8570, Japan*

The crystal structure of porcine pancreatic elastase (PPE) complexed with a potent peptidyl inhibitor, FR136706 was solved at 2.2 Å resolution. This novel interaction mode can lead to design a new type of inhibitors.



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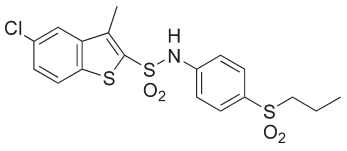
Identification of a Stable Chymase Inhibitor Using a Pharmacophore-Based Database Search

Yuuki Koide,[a,*] Akira Tatsui,[b] Takeshi Hasegawa,[b] Akira Murakami,[b] Shoji Satoh,[a] Hideki Yamada,[a] Shin-ichi Kazayama[a] and Atsuo Takahashi[a]

[a]*Drug Research Department, Tokyo Research Laboratories, TOA EIYO Ltd., 2-293-3 Amanuma, Saitama 330-0834, Japan*
[b]*Drug Research Department, Fukushima Research Laboratories, TOA EIYO Ltd., 1 Tanaka, Yuno, Iizaka, Fukushima 960-0280, Japan*

Using a pharmacophore-based database search, we identified a benzo[*b*]thiophen-2-sulfonamide derivative as a stable chymase inhibitor.



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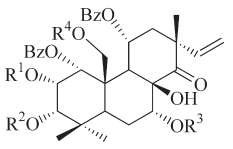
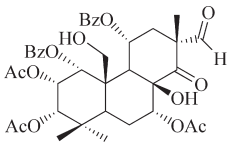
Siphonols A–E: Novel Nitric Oxide Inhibitors from *Orthosiphon stamineus* of Indonesia

Suresh Awale, Yasuhiro Tezuka, Arjun H. Banskota and Shigetoshi Kadota*

Institute of Natural Medicine, Toyama Medical and Pharmaceutical University, 2630-Sugitani, Toyama 930-0194, Japan





5

1 $R^1 = R^2 = R^3 = Ac$, $R^4 = H$
2 $R^1 = R^2 = Ac$, $R^3 = R^4 = H$
3 $R^1 = R^4 = H$, $R^2 = R^3 = Ac$
4 $R^1 = R^2 = R^4 = Ac$, $R^3 = H$,

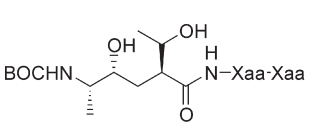
Bioorg. Med. Chem. Lett. 13 (2003) 37

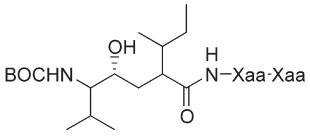
Synthesis and γ-Secretase Activity of APP Substrate-Based Hydroxyethylene Dipeptide Isosteres

Alan Nadin,[a,*] Andrew P. Owens,[a] José L. Castro,[a] Timothy Harrison[a] and Mark S. Shearman[b]

[a]*Department of Medicinal Chemistry, Merck Sharp & Dohme Research Laboratories, The Neuroscience Research Centre, Terlings Park, Harlow, Essex CM20 2QR, UK*
[b]*Department of Molecular Biology, Merck Sharp & Dohme Research Laboratories, The Neuroscience Research Centre, Terlings Park, Harlow, Essex CM20 2QR, UK*

The synthesis and γ-secretase activity of a number of hydroxyethylene isosteres is reported.





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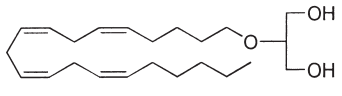
Homologues and Isomers of Noladin Ether, a Putative Novel Endocannabinoid: Interaction with Rat Cannabinoid CB_1 Receptors

Giovanni Appendino,[a,*] Alessia Ligresti,[b] Alberto Minassi,[a] Nives Daddario,[a] Tiziana Bisogno[b] and Vincenzo Di Marzo[b,*]

[a]*DiSCAFF, Viale Ferrucci 33, 28100 Novara, Italy*
[b]*Endocannabinoid Research Group, Istituto di Chimica Biomolecolare, CNR, Via Campi Flegrei 34, Comprensorio A. Olivetti, Building 70, 80078 Pozzuoli (NA), Italy*

Two regioisomers and 13 analogues of the putative endocannabinoid noladin ether (2-arachidonyl glyceryl ether, 2-AGE) were synthesized and tested for their interaction with CB_1 receptors in rat brain membranes.



2-Arachidonoyl glyceryl ether, 2-AGE

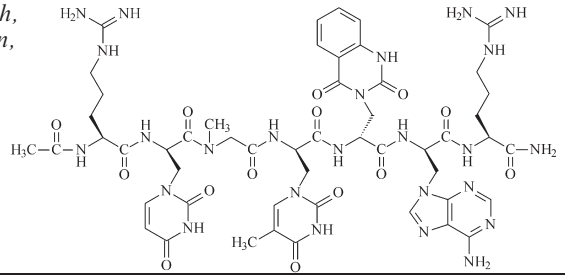
Bioorg. Med. Chem. Lett. 13 (2003) 47

Comparison of Library Screening Techniques used in the Development of dsDNA Ligands

Patrick Chaltin, Filip Borgions, Arthur Van Aerschot and Piet Herdewijn*

Laboratory of Medicinal Chemistry, Rega Institute for Medical Research, Katholieke Universiteit Leuven, Minderbroedersstraat 10, B-3000 Leuven, Belgium

The gel retardation and FID techniques are evaluated and compared for the selection of dsDNA ligands out of unnatural oligopeptide library mixtures. Both methods yield comparable selection results and binding constants for the selected compounds, meaning that they can be considered as complementary in the discovery process of new antigene compounds.



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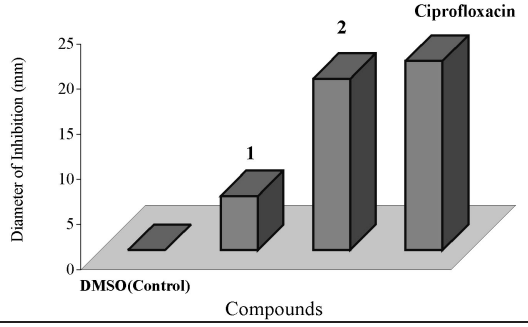
Structural Chemistry and In Vitro Antitubercular Activity of Acetylpyridine Benzoyl Hydrazone and Its Copper Complex against *Mycobacterium smegmatis*

Jayendra Patole,[a] Uday Sandbhor,[a] Subhash Padhye,[b,*] Dileep N. Deobagkar,[b] Christopher E. Anson[c] and Annie Powell[c]

[a]*Department of Chemistry, University of Pune, Pune-411 007, India*
[b]*Department of Zoology, University of Pune, Pune 411 007, India*
[c]*Institut für anorganische Chemie, Universität Karlsruhe, D-76128 Karlsruhe, Germany*

Acetylpyridine benzoylhydrazone (APBH) **1** and its copper complex [{(APBH)CuCl}$_2$] (EtOH) (**2**) have been structurally characterized. The copper complex shows 3-fold greater antimycobacterial activity when tested against *Mycobacterium smegmatis*.



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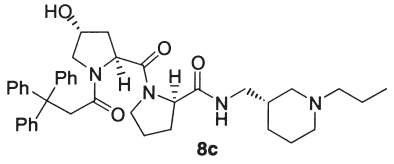
Identification of Novel Muscarinic M_3 Selective Antagonists with a Conformationally Restricted Hyp-Pro Spacer

Yufu Sagara,* Toshifumi Kimura, Toru Fujikawa, Kazuhito Noguchi and Norikazu Ohtake

Banyu Tsukuba Research Institute in collaboration with Merck Research Laboratories, Okubo-3, Tsukuba 300-2611, Ibaraki, Japan

The discovery of a novel M_3 selective antagonists **8c** [K_i (M_3) = 1.5 nM, M_1/M_3 = 870-fold, M_2/M_3 = 180-fold, M_4/M_3 = 38-fold, M_5/M_3 = 2300-fold] with a rigid spacer group, hydroxyproline-proline, is described.



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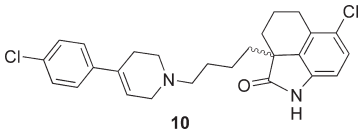
New Tetrahydrobenzindoles as Potent and Selective 5-HT$_7$ Antagonists with Increased In Vitro Metabolic Stability

Chika Kikuchi,* Hisashi Suzuki, Toyokazu Hiranuma and Masao Koyama

Pharmaceutical Research Center, Meiji Seika Kaisha Ltd., 760 Morooka-cho, Kohoku-ku, Yokohama 222-8567, Japan

Chemical modification of putative sites of oxidative metabolism afforded compound **10** (DR4485), an orally bioavailable 5-HT$_7$ receptor antagonist with high selectivity.



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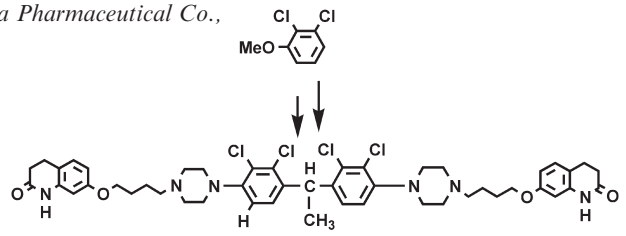
Synthetic Study on the Unique Dimeric Arylpiperazine: Access to the Minor Contaminant of Aripiprazole

Yasuhiro Torisawa,* Koichi Shinhama, Takao Nishi and Jun-ichi Minamikawa

Process Research Laboratory, Second Tokushima Factory, Otsuka Pharmaceutical Co., Ltd., Kawauchi-cho, Tokushima, 771-0182, Japan



a contaminant of Aripiprazole

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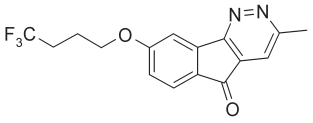
Rational Approaches Towards Reversible Inhibition of Type B Monoamine Oxidase. Design and Evaluation of a Novel 5H-Indeno[1,2-*c*]pyridazin-5-one Derivative

Frédéric Ooms,[a] Raphaël Frédérick,[a] François Durant,[a] Jacobus P. Petzer,[b] Neal Castagnoli, Jr.,[b] Cornelis J. Van der Schyf[b,c] and Johan Wouters[a,*]

[a]*Facultés Universitaires Notre-Dame de la Paix, Laboratoire de Chimie Moléculaire Structurale, B-5000 Namur, Belgium*
[b]*Department of Chemistry, The Harvey W. Peters Center, VA-MD Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA 24061-0212, USA*
[c]*Department of Biomedical Sciences and Pathobiology, VA-MD Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA 24061-0212, USA*



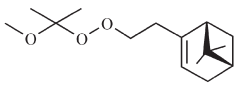
Bioorg. Med. Chem. Lett. 13 (2003) 75

Synthesis and Antimalarial Activity of 2-Methoxyprop-2-yl Peroxides Derivatives

Laure Cointeaux,[a] Jean-François Berrien,[a,*] Viviane Peyrou,[a] Olivier Provot,[a] Liliane Ciceron,[b] Martin Danis,[b] Anne Robert,[c] Bernard Meunier[c] and Joëlle Mayrargue[a,*]

[a]*UPRES A 8076 BioCIS, Laboratoire de synthèse et conception des molécules d'intérêt thérapeutique, Faculté de Pharmacie, rue J.-B. Clément, F-92296 Châtenay Malabry Cedex, France*
[b]*INSERM U511, Immuno-biologie cellulaire et moléculaire des infections parasitaires, Groupe hospitalier Pitié-Salpétrière, F-75013 Paris, France*
[c]*Laboratoire de Chimie de Coordination du CNRS, 205 route de Narbonne, 31077 Toulouse cedex 4, France*

Lipophilic acyclic perketals have good in vitro activity against *Plasmodium falciparum*.



IC_{50} = 370 nM (artemisinin : 55 nM)

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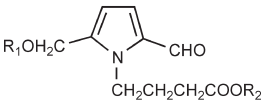
Hepatoprotective Pyrrole Derivatives of *Lycium chinense* Fruits

Young-Won Chin, Song Won Lim, Seok-Ho Kim, Dong-Yun Shin, Young-Ger Suh, Yang-Bae Kim, Young Choong Kim and Jinwoong Kim*

College of Pharmacy and Research Institute of Pharmaceutical Science, Seoul National University, Seoul 151-742, South Korea

The three new pyrrole derivatives were isolated from *Lycium chinense* and their hepatoprotective activities (64.4, 65.8 and 38.5% at 0.1 μM) were described.



	R_1	R_2
1:	H	H
2:	CH_3	H
3:	CH_3	CH_3

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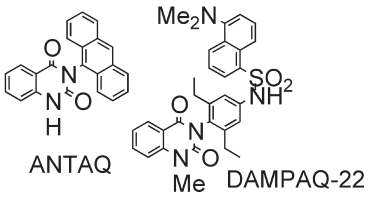
Fluorescent Bioprobes for Visualization of Puromycin-Sensitive Aminopeptidase in Living Cells

Hiroki Kakuta, Yukiko Koiso, Kazuo Nagasawa and Yuichi Hashimoto*

Institute of Molecular and Cellular Biosciences, The University of Tokyo, 1-1-1 Yayoi, Bunkyo-ku, Tokyo 113-0032, Japan

ANTAQ and DAMPAQ-22 were designed, synthesized and utilized as fluorescent bioprobes for visualization of puromycin-senstitive aminopeptidase in living cells.



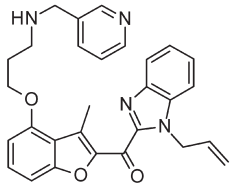
Bioorg. Med. Chem. Lett. 13 (2003) 87

Design and Synthesis of Novel Benzofurans as a New Class of Antifungal Agents Targeting Fungal *N*-Myristoyltransferase. Part 3

Ken-ichi Kawasaki,[a] Miyako Masubuchi,[a] Kenji Morikami,[a] Satoshi Sogabe,[a] Tsunehisa Aoyama,[a] Hirosato Ebiike,[a] Satoshi Niizuma,[a] Michiko Hayase,[b] Toshihiko Fujii,[b] Kiyoaki Sakata,[b] Hidetoshi Shindoh,[c] Yasuhiko Shiratori,[a] Yuko Aoki,[b] Tatsuo Ohtsuka[a,*] and Nobuo Shimma[a]

[a]*Department of Chemistry, Nippon Roche Research Center, 200 Kajiwara, Kamakura, Kanagawa 247-8530, Japan*
[b]*Department of Mycology, Nippon Roche Research Center, 200 Kajiwara, Kamakura, Kanagawa 247-8530, Japan*
[c]*Department of Preclinical Science, Nippon Roche Research Center, 200 Kajiwara, Kamakura, Kanagawa 247-8530, Japan*

A new series of acid-stable antifungal agents having strong inhibitory activity against *Candida albicans N*-myristoyltransferase (CaNmt) has been developed starting from acid-unstable benzofuranylmethyl aryl ether **2**. The inhibitor design is based on X-ray crystallographic analysis of a CaNmt complex with aryl ether **3**. Among the new inhibitors, pyridine derivative **8b** and benzimidazole derivative **8k** showed clear antifungal activity in a murine systemic candidiasis model.



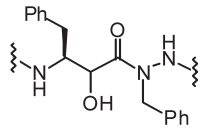
8k

Bioorg. Med. Chem. Lett. 13 (2003) 93

Design and Synthesis of Pseudo-Symmetric HIV Protease Inhibitors Containing a Novel Hydroxymethylcarbonyl (HMC)-Hydrazide Isostere

Koushi Hidaka,[a] Tooru Kimura,[a] Yoshio Hayashi,[a] Keith F. McDaniel,[b] Tatyana Dekhtyar,[b] Lynn Colletti[b] and Yoshiaki Kiso[a,*]

[a]*Department of Medicinal Chemistry, Center of Frontier Reseach in Medicinal Science, Kyoto Pharmaceutical University, Yamashina-ku, Kyoto 607-8412, Japan*
[b]*Antiviral Research, Global Pharmaceutical Research and Development, Abbott Laboratories, Abbott Park, IL 60064, USA*



HMC-hydrazide

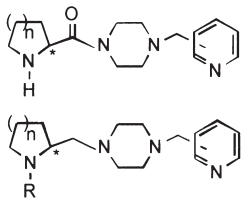
Bioorg. Med. Chem. Lett. 13 (2003) 97

N,N-Disubstituted Piperazines: Synthesis and Affinities at α4β2* and α7* Neuronal Nicotinic Acetylcholine Receptors

Jianhong Chen,[a] Seth Norrholm,[b] Linda P. Dwoskin,[b] Peter A. Crooks[b,*] and Donglu Bai[a,*]

[a]*Shanghai Institute of Materia Medica, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, 294 Tai-yuan Road, Shanghai 200031, China*
[b]*Division of Pharmaceutical Sciences, College of Pharmacy, University of Kentucky, 800 Rose Street, Lexington, KY 40536-0082, USA*

A series of *N,N*-disubstituted piperazines were prepared and evaluated for binding to α4β2* and α7* nicotinic receptors using rat striatum and whole brain membrane preparations, respectively. This series of compounds exhibited selectivity for α4β2* nAChRs and did not interact with the α7* nAChRs subtype.



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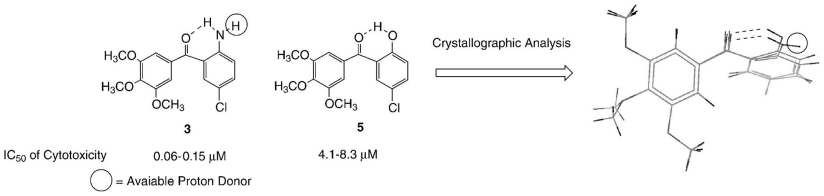
Structure–Activity and Crystallographic Analysis of Benzophenone Derivatives—the Potential Anticancer Agents

Hsing-Pang Hsieh,[a,*] Jing-Ping Liou,[a] Ying-Ting Lin,[a] Neeraj Mahindroo,[a] Jang-Yang Chang,[b] Yung-Ning Yang,[a] Shuenn-Shing Chern,[c] Uan-Kang Tan,[d] Chun-Wei Chang,[a] Tung-Wei Chen,[a] Chi-Hung Lin,[e] Ying-Ying Chang[a] and Chiung-Chiu Wang[a]

[a]*Division of Biotechnology and Pharmaceutical Research, National Health Research Institutes, 9F, 161, Sec. 6, Min-Chiuan East Road, Taipei 114, Taiwan, ROC*
[b]*Division of Cancer Research, National Health Research Institutes, Taipei 115, Taiwan, ROC*
[c]*Institute of Molecular Biology, Academia Sinica, Taipei 115, Taiwan, ROC*
[d]*Department of Chemical Engineering, Kuang Wu Institute of Technology, Taipei 112, Taiwan, ROC*
[e]*Institute of Microbiology and Immunology, National Yang-Ming University, Taipei 112, Taiwan, ROC*



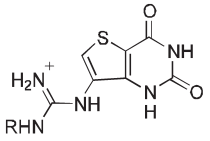
Bioorg. Med. Chem. Lett. 13 (2003) 107

Design of Novel *N*-(2,4-Dioxo-1,2,3,4-tetrahydro-thieno[3,2-*d*] pyrimidin-7-yl)-guanidines as Thymidine Phosphorylase Inhibitors, and Flexible Docking to a Homology Model

Melissa L. P. Price,[a,*] Wayne C. Guida,[b,c] Tara E. Jackson,[b] Jason A. Nydick,[b] Patricia L. Gladstone,[a] José C. Juarez,[a] Fernando Doñate[a] and Robert J. Ternansky[a]

[a]*Attenuon, L.L.C., San Diego, CA 92121, USA,*[b]*Department of Chemistry, Eckerd College, St. Petersburg, FL 33711, USA*
[c]*Drug Discovery Program, H. Lee Moffitt Cancer Center and Research Institute at the University of South Florida, Tampa, FL 33612, USA*

A novel class of thymidine phosphorylase (TP) inhibitors has been designed based on analogy to the enzyme substrate as well as known inhibitors. Flexible docking studies, using a homology model of human TP, of the designed *N*-(2,4-dioxo-1,2,3,4-tetrahydro-thieno[3,2-*d*]pyrimidin-7-yl)-guanidines as well as their synthetic precursors provide insight into the observed experimental trends in binding affinity.



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Development of an Orexin-2 Receptor Selective Agonist, [Ala[11], D-Leu[15]]orexin-B

Shuichi Asahi, Shin-Ichiro Egashira, Masao Matsuda,* Hisashi Iwaasa, Akio Kanatani, Mitsuru Ohkubo, Masaki Ihara and Hajime Morishima

Banyu Tsukuba Research Institute, Banyu Pharmaceutical Co., Ltd., Okubo-3, Tsukuba 300-2611, Ibaraki, Japan

High potent and selective orexin-2 receptor selective agonist peptides, [Ala[11]]orexin-B and [Ala[11], D-Leu[15]]orexin-B, were found from systematic L-alanine and D-amino acid replacement of orexin-B.

RSGPPGLQGRX$_1$QRLX$_2$QASGNHAAGILTM-NH$_2$
X$_1$=Leu or Ala, X$_2$=Leu or D-Leu

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Design, Synthesis, and Biological Evaluation of Angiogenesis Inhibitors: Aromatic Enone and Dienone Analogues of Curcumin

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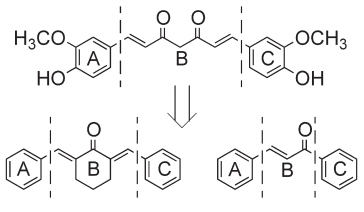
[c]*Department of Chemistry, Emory University, Atlanta, GA 30322, USA*



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1,3,4-Trisubstituted Pyrrolidine CCR5 Receptor Antagonists: Modifications of the Arylpropylpiperidine Side Chains

Christopher L. Lynch,[a,*] Christopher A. Willoughby,[a] Jeffrey J. Hale,[a] Edward J. Holson,[a] Richard J. Budhu,[a] Amy L. Gentry,[a] Keith G. Rosauer,[a] Charles G. Caldwell,[a] Ping Chen,[a] Sander G. Mills,[a] Malcolm MacCoss,[a] Scott Berk,[a] Liya Chen,[a] Kevin T. Chapman,[a] Lorraine Malkowitz,[b] Martin S. Springer,[b] Sandra L. Gould,[b] Julie A. DeMartino,[b] Salvatore J. Siciliano,[b] Margaret A. Cascieri,[b] Anthony Carella,[c] Gwen Carver,[c] Karen Holmes,[c] William A. Schleif,[c] Renee Danzeisen,[c] Daria Hazuda,[c] Joseph Kessler,[c] Janet Lineberger,[c] Michael Miller[c] and Emilio A. Emini[c]

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Imidazo[4,5-*b*]pyridines as Corticotropin Releasing Factor Receptor Ligands

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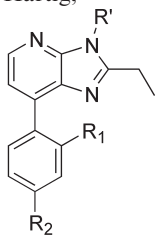
[b]*CNS Diseases Research, Bristol-Myers Squibb Company, Experimental Station, Wilmington, DE 19880, USA*
[c]*Drug Metabolism and Pharmacokinetics, Bristol-Myers Squibb Company, Experimental Station, Wilmington, DE 19880, USA*

A series of high affinity CRF receptor ligands with an imidazo[4,5-*b*]pyridine core is described. Analogues were synthesized and tested in a rat CRF receptor binding assay. The best compounds were tested in the dog N-in-1 pharmacokinetic at 1 mg/kg (po) and in the rat situational anxiety model at 3 mg/kg (po).



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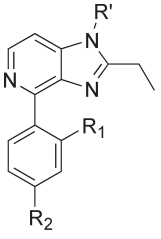
Imidazo[4,5-*c*]pyridines as Corticotropin Releasing Factor Receptor Ligands

Argyrios G. Arvanitis,[a,*] Joseph T. Rescinito,[a] Charles R. Arnold,[a] Richard G. Wilde,[a] Lawrence W. Fitzgerald,[b] Robert Zaczek,[b] Paul R. Hartig,[b] Scott Grossman,[c] Stephen P. Arneric,[b] Paul J. Gilligan,[a] Richard E. Olson[a] and David W. Robertson[a]

[a]*Discovery Chemistry-Wilmington, Bristol-Myers Squibb Company, Experimental Station, Wilmington, DE 19880, USA*
[b]*CNS Diseases Research, Bristol-Myers Squibb Company, Experimental Station, Wilmington, DE 19880, USA*
[c]*Drug Metabolism and Pharmacokinetics, Bristol-Myers Squibb Company, Experimental Station, Wilmington, DE 19880, USA*

A series of high affinity CRF receptor ligands with an imidazo[4,5-*c*]pyridine core is described. Individual analogues were synthesized and tested in vitro in rat brain receptors to determine binding affinity. The best compound was tested in the dog N-in-1 pharmacokinetic model at 1 mg/kg po.



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Structure–Activity Relationship of Linear Peptide Bu-His-DPhe-Arg-Trp-Gly-NH_2 at the Human Melanocortin-1 and -4 Receptors: Histidine Substitution

Adrian Wai-Hing Cheung,* Waleed Danho, Joseph Swistok, Lida Qi, Grazyna Kurylko, Karen Rowan, Mitch Yeon, Lucia Franco, Xin-Jie Chu, Li Chen and Keith Yagaloff

Roche Research Center, Hoffmann-La Roche Inc., Nutley, NJ 07110, USA

Systematic substitution of His^6 residue using non-selective hMC4R pentapeptide agonist (Bu-His^6-$DPhe^7$-Arg^8-Trp^9-Gly^{10}-NH_2) as the template led to the identification of Bu-Atc^6(2-aminotetraline-2-carboxylic acid)-$DPhe^7$-Arg^8-Trp^9-Gly^{10}-NH_2 which showed moderate selectivity towards hMC4R over hMC1R. Further SAR studies resulted in the discovery of Penta-5-BrAtc^6-$DPhe^7$-Arg^8-Trp^9-Gly^{10}-NH_2 and Penta-5-$Me_2N$$Atc^6$-$DPhe^7$-$Arg^8$-$Trp^9$-$Gly^{10}$-$NH_2$ which are potent hMC4R agonists and are inactive in hMC1R, hMC3R and hMC5R agonist assays.

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3-Acylamino-azetidin-2-one as a Novel Class of Cysteine Proteases Inhibitors

Nian E. Zhou,[a] Deqi Guo,[a] George Thomas,[a] Andhe V. N. Reddy,[a] Jadwiga Kaleta,[a] Enrico Purisima,[b] Robert Menard,[b] Ronald G. Micetich[a] and Rajeshwar Singh[a,*]

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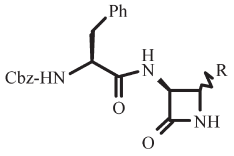
3-Acylamino-azetidin-2-one derivatives with potent inhibition activities for cathepsins L, K, and S at the nanomolar or subnanomolar IC_{50} values is reported.

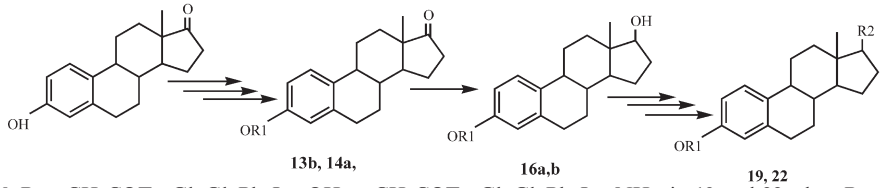


Bioorg. Med. Chem. Lett. 13 (2003) 143

Studies on the Synthesis and Anti-Osteoporosis of Estrogen-GHRPs Linkers

Chao Wang, Weina Cui, Ming Zhao, Jian Yang and Shiqi Peng*

College of Pharmaceutical Sciences, Peking University, Beijing 100083, PR China



13b, 14a, **16a,b** **19, 22**

in **13a, 14a** and **16a,b** $R_1 = CH_2COTyrGlyGlyPheLeuOH$ or $CH_2COTyrGlyGlyPheLeuNH_2$; in **19** and **22** when $R_1 = CH_2COTyrGlyGly$-PheLeuOH or $CH_2COTyrGlyGlyPheLeuNH_2$, $R_2 = H$, when $R_2 = H$, R_1 = TyrGlyGlyPheLeuO or $OCOCH_2CH_2CO$ TyrGlyGlyPheLeuNH$_2$

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Nodulisporic Acid Side-Chain Modifications: Access to the 2″, 3″, 4″, and 6″ Registers

Prasun K. Chakravarty, Thomas L. Shih, Steven L. Colletti, Michelle B. Ayer, Christine Snedden, Howard Kuo, Sriram Tyagarajan, Lynn Gregory, Michelle Zakson-Aiken, Wesley L. Shoop, Dennis M. Schmatz, Matthew J. Wyvratt, Michael H. Fisher and Peter T. Meinke*

Merck Research Laboratories, PO Box 2000, RY800-B101, Rahway, NJ 07065-0900, USA

Efficient routes to the 2″, 3″, 4″, and 6″ registers of the nodulisporic acid side chain are disclosed.