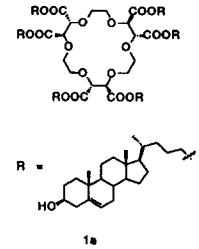
The Design, Synthesis and Transmembrane Transport Studies of a Biomimetic Sterol-Based Ion Channel

Bioorg. Med. Chem. **1997**, *5*, 1893

Anthony D. Pechulis,[a] Richele J. Thompson,[a] John P. Fojtik,[a] Herbert M. Schwartz,[a] Carol A. Lisek[b] and Leah L. Frye[a,*]
[a]*Department of Chemistry, Rensselaer Polytechnic Institute, Troy, NY, 12180, U.S.A.*
[b]*Searle, Skokie, IL 60077, U.S.A.*

A model sterol-based ion channel was rationally designed and synthesized. The potential ion channel (**1a**) is comprised of a tartrate-derived crown ether to which six steroids are appended. Macromolecule **1a** was incorporated into phospholipid vesicles and shown to facilitate the transmembrane transport of sodium and lithium ions using alkali metal NMR spectroscopy.

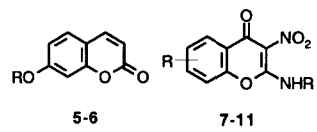


Synthesis and Hybridization Properties of the Conjugates of Oligonucleotides and Stabilization Agents—II

Bioorg. Med. Chem. **1997**, *5*, 1903

A. Balbi,[a,*] E. Sottofattori,[a] T. Grandi,[a] M. Mazzei,[a] Dmitri S. Pyshnyi,[b] Sergej G. Lokhov,[b] and Alexander V. Lebedev[b,c,*]
[a]*Institute of Pharmaceutical Sciences, Viale Benedetto XV, 3 Genoa, Italy*
[b]*Institute of Bioorganic Chemistry, Novosibirsk, Russia*
[c]*Biomedical Inc., San Diego, California, U.S.A.*

The Tm data and the thermodynamic parameters of complementary complexes of an octanucleotide and a heptanucleotide, which has been linked to the new stabilizing agents **5–13**, have shown the capacity of α- and γ-pyrone derivatives **5–11** to stabilize 7-mer/8-mer complementary complexes, most likely through the stacking interaction of the pyran aromatic system with the neighboring nucleotide bases.

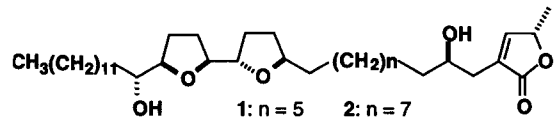


Isolation of New Bioactive Annonaceous Acetogenins from *Rollinia mucosa* Guided by Liquid Chromatography/Mass Spectrometry

Bioorg. Med. Chem. **1997**, *5*, 1911

Zhe-ming Gu,[a] Dawei Zhou,[a] Neil J. Lewis,[a] Jinn Wu,[a,*] Guoen Shi[b] and Jerry L. McLaughlin[b]
[a]*XenoBiotic Laboratories, Inc., 107 Morgan Lane, Plainsboro, NJ 08536, U.S.A.*
[b]*Department of Medicinal Chemistry and Molecular Pharmacology, Purdue University, West Lafayette, IN 47907, U.S.A.*

Fractionation monitored by LC/MS led to the isolation of two new adjacent bis-THF acetogenins, rollidecins C and D (**1** and **2**). Both compounds showed cytotoxicity.

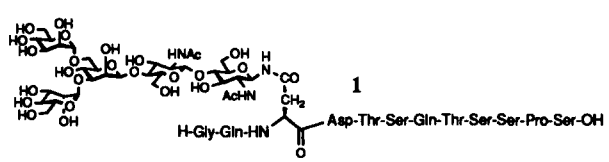


Solid-phase Synthesis of CD52 Glycopeptide and an Efficient Route to Asn–Core Pentasaccharide Conjugate

Bioorg. Med. Chem. **1997**, *5*, 1917

Zhong-Wu Guo,[a] Yuko Nakahara,[a] Yoshiaki Nakahara[a] and Tomoya Ogawa[a,b,*]
[a]*The Institute of Physical and Chemical Research (RIKEN), 2-1 Hirosawa, Wako-shi, Saitama, 351-01 Japan*
[b]*Graduate School of Agriculture and Life Science, University of Tokyo, Yayoi, Bunkyo-ku, Tokyo, 113 Japan*

Glycopeptide 1, the full peptide sequence of CD52 antigen containing an *N*-linked core pentasaccharide and its nonglycosylated peptide were both prepared by solid-phase synthesis.



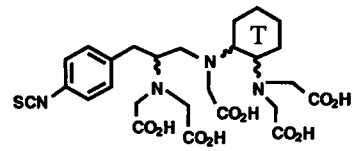
Bioorg. Med. Chem. **1997**, *5*, 1925

Stereochemical Influence on the Stability of Radio-Metal Complexes In Vivo. Synthesis and Evaluation of the Four Stereoisomers of 2-(*p*-Nitrobenzyl)-*trans*-CyDTPA

C. Wu[a], H. Kobayashi,[b] B. Sun,[b] T. M. Yoo,[b] C. H. Paik,[b] O. A. Gansow,[a] J. A. Carrasquillo,[b] I. Pastan,[c] and M. W. Brechbiel[a,*]

[a]*Chemistry Section, ROB, NCI;* [b]*Department of Nuclear Medicine, CC;* [c]*Laboratory of Molecular Biology, NCI, NIH, Bethesda, MD 20892, U.S.A.*

Yttrium complexes of the stereoisomers of 2-(*p*-nitrobenzyl)-*trans*-CyDTPA conjugated to monoclonal antibody exhibit different in vivo stability.



Bioorg. Med. Chem. **1997**, *5*, 1935

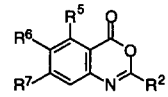
Inhibition of Cathepsin G by 4*H*-3,1-Benzoxazin-4-ones

Michael Gütschow[a,*] and Ulf Neumann[b]

[a]*Institute of Pharmacy, University of Leipzig, D-04103 Leipzig, Germany*

[b]*Novartis Pharma AG, CH-4002 Basel, Switzerland*

A series of 4*H*-3,1-benzoxazin-4-ones is reported that act as acyl-enzyme inhibitors of the serine proteases cathepsin G and chymotrypsin. Introduction of an aryl moiety into the 2-substituent led to compounds with K_i values towards human cathepsin G in the nanomolar range.



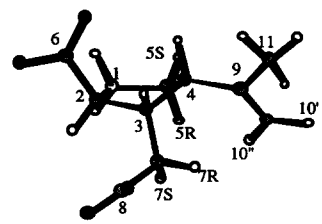
Bioorg. Med. Chem. **1997**, *5*, 1943

Structure of Kainic Acid Totally Elucidated by NMR and Molecular Modelling

Nathalie Todeschi,[a] Josyane Gharbi-Benarous[a,b] and Jean-Pierre Girault[a,*]

[a]*Université René Descartes-Paris V, Laboratoire de Chimie et Biochimie Pharmacologiques et Toxicologiques (URA 400 CNRS), 45 rue des Saint-Pères, 75270 Paris Cedex 06, France*

[b]*Université Denis Diderot-Paris VII, UFR Chimie, 2 Place Jussieu, F-75251 Paris Cedex 05, France*



Kainic acid

Bioorg. Med. Chem. **1997**, *5*, 1959

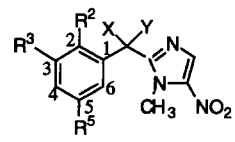
Preparation, Antimicrobial Evaluation, and Mutagenicity of [2-Hydroxyaryl]-[1-methyl-5-nitro-1*H*-2-imidazolyl]-methanols, [5-*tert*-Butyl-2-methylaminophenyl]-[1-methyl-5-nitro-1*H*-2-imidazolyl]-methanol, and [2-Hydroxyaryl]-[1-methyl-5-nitro-1*H*-2-imidazolyl] ketones

Y. Arredondo,[a] M. Moreno-Mañas,[a] R. Pleixats,[a,*] C. Palacín,[b] M. M. Raga,[b] J. M. Castelló[b] and J. A. Ortiz[b,*]

[a]*Department of Chemistry, Universitat Autònoma de Barcelona, Cerdanyola, 08193-Barcelona, Spain*

[b]*Centro de Investigación Grupo Ferrer, Juan de Sada, 32, 08028-Barcelona, Spain*

Some of the compounds are non-mutagenic and present good antimicrobial activity. R^3/R^5 = H, cyclopropyl, 1-adamantyl, 2-adamantyl, cyclohexyl, 2-norbornyl, ^{t}Bu, F, Cl, OMe, COMe; R^2 = OH, NHMe; X, Y = H, OH or = O.



Bioorg. Med. Chem. **1997**, *5*, 1969

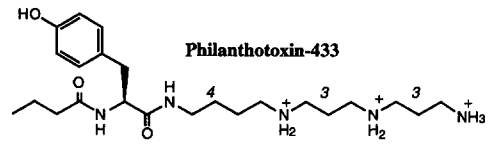
Structure–Binding Relation of Philanthotoxins from Nicotinic Acetylcholine Receptor Binding Assay

Koji Nakanishi,[a,*] Xuefei Huang,[a] Hong Jiang,[a] Ying Liu,[a] Kan Fang,[a] Danwen Huang,[a] Seok-Ki Choi,[a] Elizabeth Katz[b] and Mohyee Eldefrawi[b]

[a]*Department of Chemistry, Columbia University, Mail Code 3114, New York, NY 10027, U.S.A.*

[b]*Department of Pharmacology and Experimental Therapeutics, University of Maryland School of Medicine, Baltimore, MD 21201, U.S.A.*

Philanthotoxins are noncompetitive inhibitors of the nicotinic acetylcholine receptor and the various glutamate receptors. Analogues carrying photoaffinity labels, fluorine atoms for solid-state NMR studies of ligand/receptor interaction, and large head groups such as porphyrins and planar bulky aromatic rings (BIG analogues) for clarifying mode of entry and orientation of analogues in receptors have been synthesized, assayed against the nicotinic acetylcholine receptor, and brief comments are given for the assay results.



Bioorg. Med. Chem. **1997**, *5*, 1989

A New Type of Carboxypeptidase A Inhibitors Designed Using an Imidazole as a Zinc Coordinating Ligand

Kyung Joo Lee, Keum Chan Joo, Eun-Jung Kim, Mijoon Lee and Dong H. Kim*

Center for Biofunctional Molecules and Department of Chemistry, Pohang University of Science and Technology, San 31 Hyojadong, Pohang 790-784, Korea