ELSEVIER

Bioorganic & Medicinal Chemistry Letters

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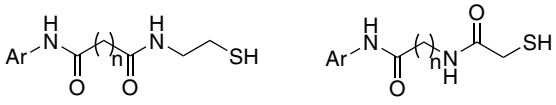
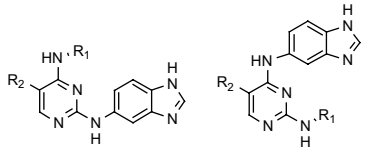
Contents

COMMUNICATIONS



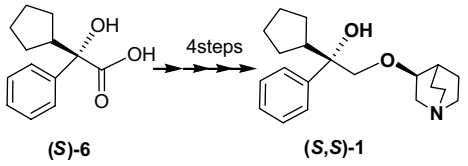
2 **3**

The synthesis and histone deacetylase (HDAC) inhibitory activity of mercaptoamides **2** and **3** is described.

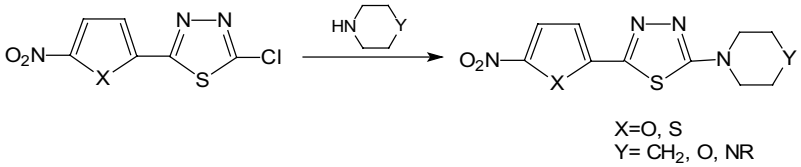


Substituted aminobenzimidazole pyrimidines were synthesized and are shown to display potent biochemical activity against CDK1. Docking studies carried out with a CDK1 homology model provides a rationale for the observed activities.

A practical diastereoselective synthesis of enantiopure isomers of **8018** is described. The intramolecular asymmetric epoxidation of mono-sulfonate **4** was applied for the execution of the synthesis of the key chiral building block for the first time. The isomers were obtained with 70–76% yields in 99–100% ee.

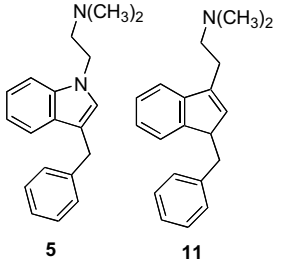


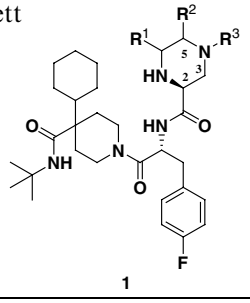
(*S*)-6 (*S*,*S*)-1

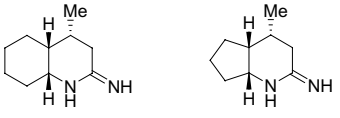


A series of 2-(5-nitro-2-furyl) and 2-(5-nitro-2-thienyl)-5-substituted-1,3,4-thiadiazoles were synthesized and tested against *Leishmania major* promastigotes. Most compounds were more active than the reference drug Pentostam.

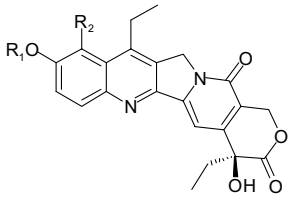
The binding of isotryptamines (e.g., **5**, $K_i = 32$ nM) and indenes (e.g., **11**, $K_i = 3$ nM) to h5-HT$_6$ serotonin receptors indicates that the presence of an indolic nitrogen atom is not a requirement for the binding of N_1-benzyltryptamines.

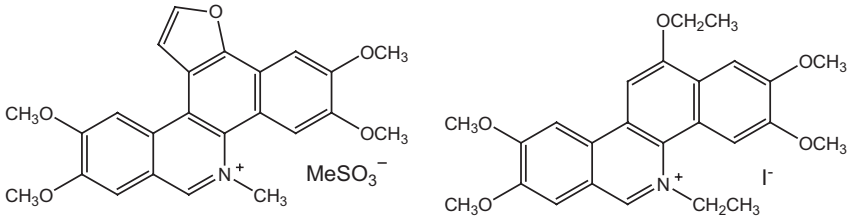


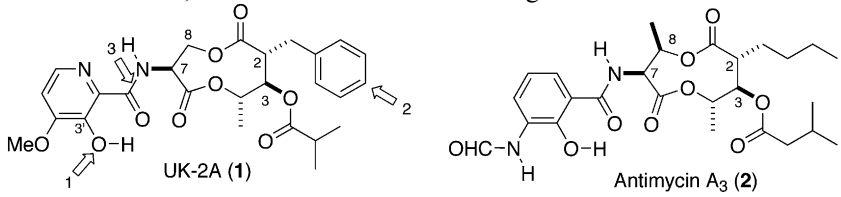


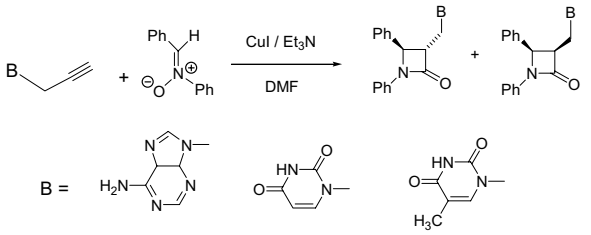


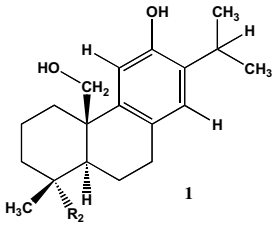
The synthesis and nitric oxide synthase inhibitory activity of bicyclic amidines are described. The 6,6 and 5,6 fused amidines **8a** and **10a** are potent, selective, and orally active iNOS inhibitors.





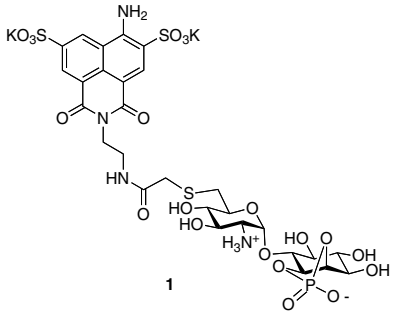






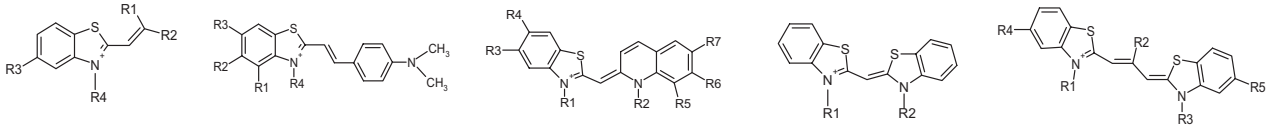
1

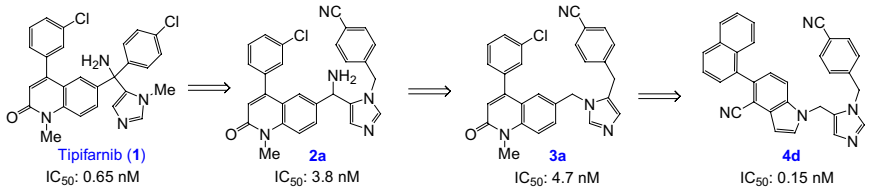
New 20-hydroxyferruginol (**1**) was isolated from the cones of *Sequoia sempervirens*. Their structures were elucidated by spectral data. Compound **1** strongly inhibited human tumor cells.

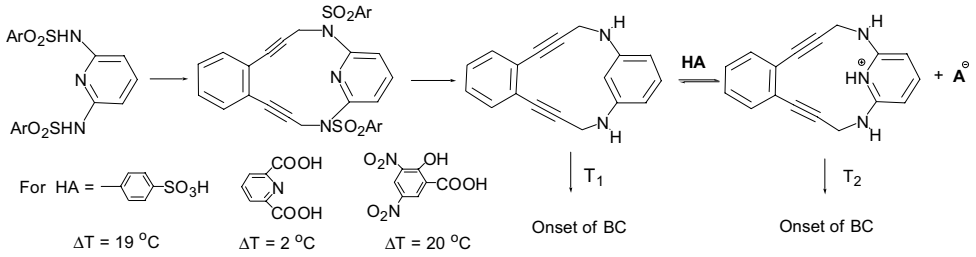


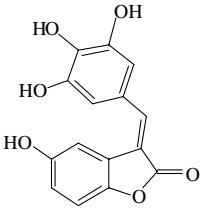
1

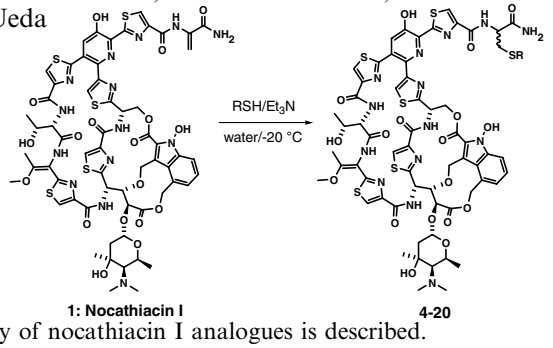
The fluorescent IPG analogue **1** was synthesized and found to stimulate lipogenesis in rat adipocytes. Since **1** does not enter the cells, this result demonstrates that stimulation of insulin-like effects by this IPG is an extracellular activity.



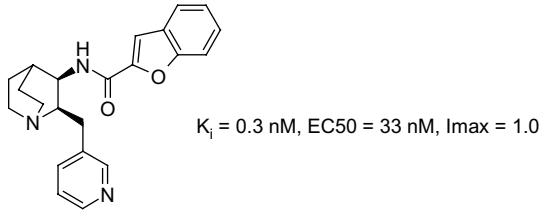




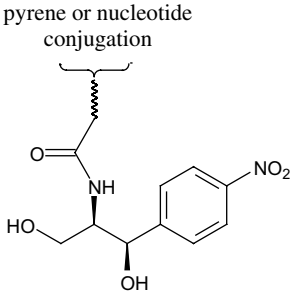


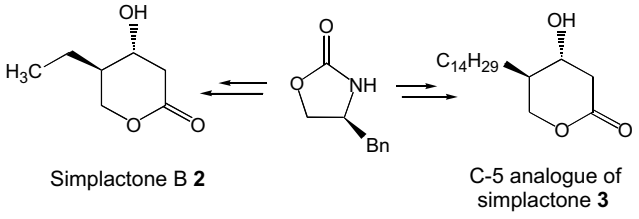


The synthesis and antibacterial activity of nocathiacin I analogues is described.



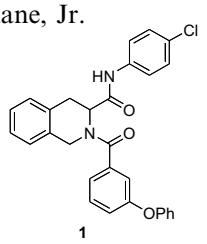
A series of 2-(arylmethyl)-3-substituted quinuclidines was developed as α7 neuronal nicotinic acetylcholine receptor (nAChR) agonists based on a putative pharmacophore model.





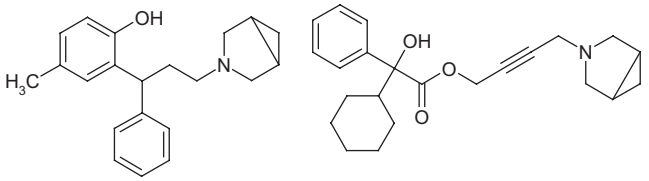
Simplactone B **2**

C-5 analogue of simplactone **3**

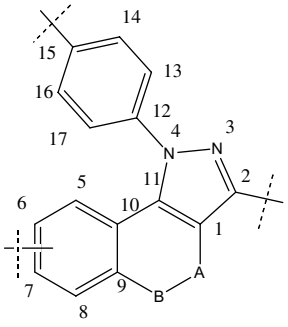


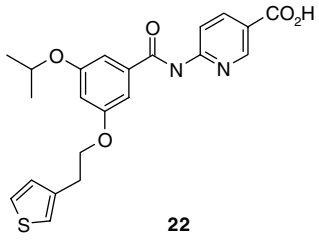
1

A series of compounds based on the 1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid diamide core structure are reported as potent enhancers of CFTR mediated chloride transport.



Novel analogues of Tolterodine and Oxybutynin are reported using 3-azabicyclo[3.1.0]hexane. The synthesis and SAR highlights our efforts to synthesize a bladder selective muscarinic receptor antagonist.





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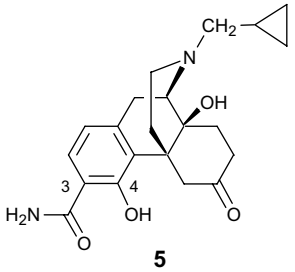
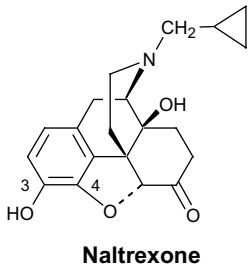
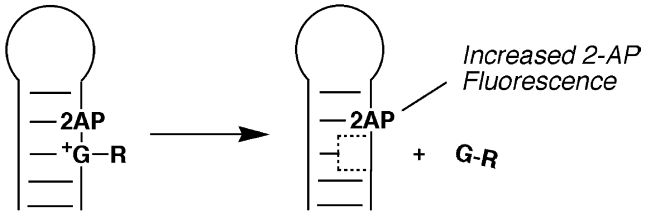


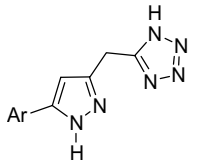
5



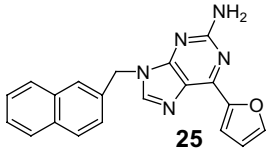
Naltrexone



A fluorimetric assay for monitoring depurination of the N7-alkylguanine adduct derived from the anticancer natural product leinamycin is described. This general approach could provide the foundation for a high throughput assay that detects DNA-alkylating agents or a convenient continuous fluorimetric assay for base excision repair enzymes.

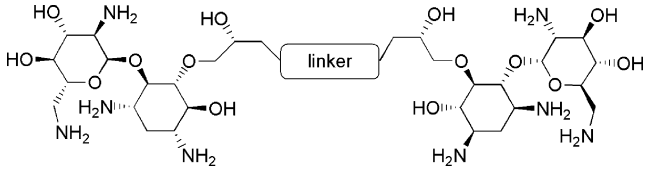


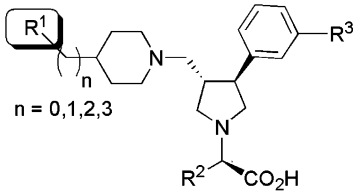
Synthesis and in vivo antihyperglycemic activity of 5(1*H*-pyrazol-3-yl)methyl-1*H*-tetrazoles are reported.



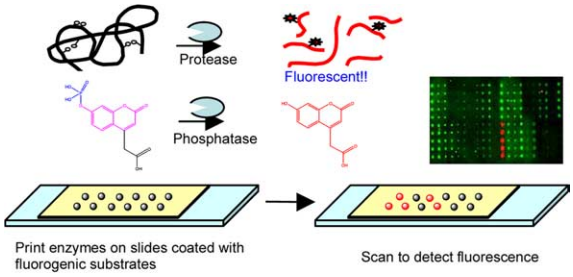
25

Structure–activity relationships has been investigated through substitutions at the 9-position of the 2-amino-6-(2-furanyl) purine (**5**) to identify novel and selective A_{2A} adenosine receptor antagonists. Several potent and selective antagonists were identified. In particular, compounds **20**, **25**, and **26** show very high affinity with excellent selectivity.

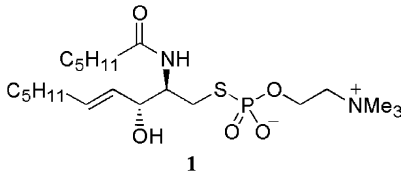




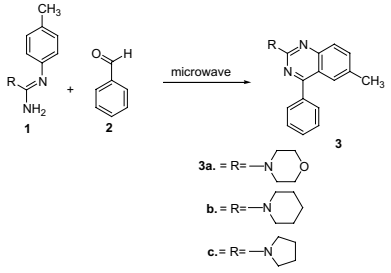
R^1 = fused heterocycles



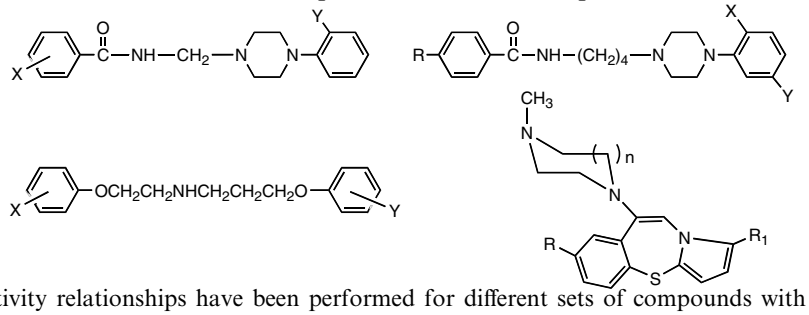
A generic method for applying microarrays in the large-scale functional characterization of enzymes is reported.



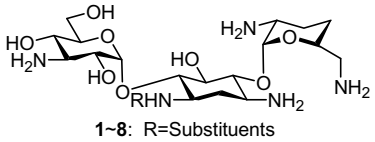
1



A systematic approach through computer assisted design to identify, synthesize and evaluate novel quinazolines having anxiolytic and GABAergic activities is reported.

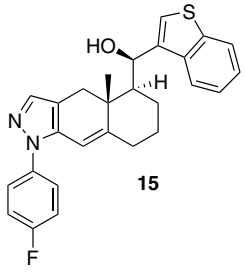


Quantitative structure–activity relationships have been performed for different sets of compounds with respect to their activities toward dopamine receptors.



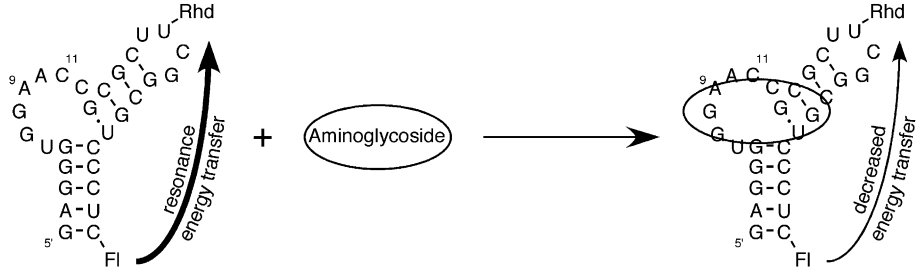
1~8: R=Substituents

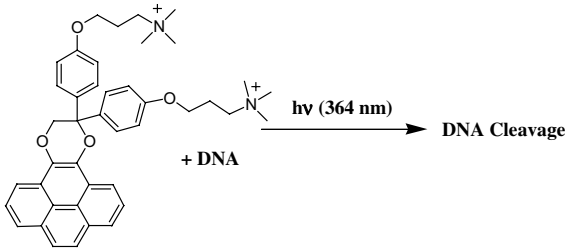
Surface plasmon resonance spectra show the nonspecific and multiple interactions of antimicrobial active analogs of kanamycin (**1**–**8**) with A-site of 16S rRNA.



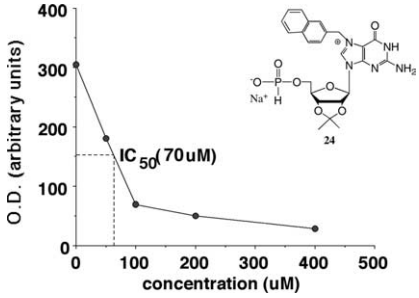
15

Compound **15** displayed the profile of a dissociated glucocorticoid in vitro and reduced inflammation in a mouse.





The title compound has been shown to cleave the ϕX 174 supercoiled plasmid upon photochemical irradiation. It also exhibits cytotoxic activity at the micromolar range in a number of human cancer cell lines.



OTHER CONTENTS

*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

COVER

Overlay of the X-ray crystal structures of a 10 mM inhibitor (pink) and a 450 nM inhibitor (yellow) bound to an allosteric site of kinesin spindle protein (KSP). The more efficient use of a hydrophobic pocket helps explain the increased potency of the latter. [Cox, C. D.; Breslin, M. J.; Mariano, B. J.; Coleman, P. J.; Buser, C. A.; Walsh, E. S.; Hamilton, K.; Huber, H. E.; Kohl, N. E.; Torrent, M.; Yan, Y.; Kuo, L. C.; Hartman, G. D. *Bioorg. Med. Chem. Lett.* **2005**, *15*, 2041.]

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