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Bioorganic & Medicinal Chemistry Letters

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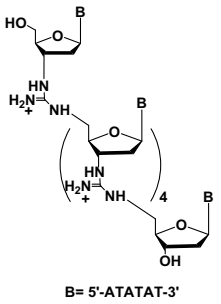
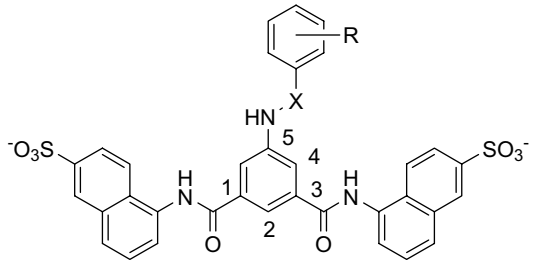
# Contents

## ARTICLES



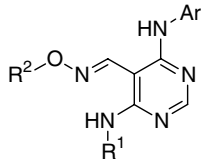

Melting studies of mixed hexameric DNG oligonucleotide, AgTgAgTgAgT, have been evaluated. Also, DNG, AgTgAgTgAgT, have been inserted into 20-mer DNA to produce DNG/DNA chimera as a antisense agent.





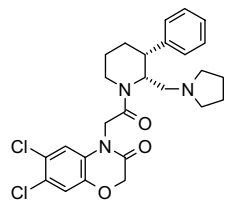

A novel series of 5-substituted isophthalamides and their structure–activity relationship as insulin receptor sensitizers is discussed.





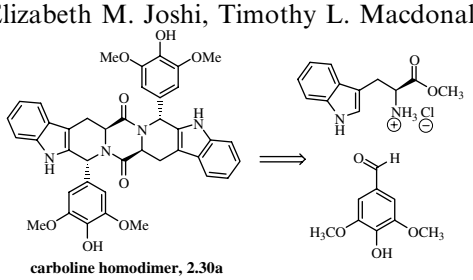

We herein disclose a novel series of 4-aminopyrimidine-5-carbaldehyde oximes that are potent and selective inhibitors of both EGFR and ErbB-2 tyrosine kinases, with $IC_{50}$ values in the nanomolar range.





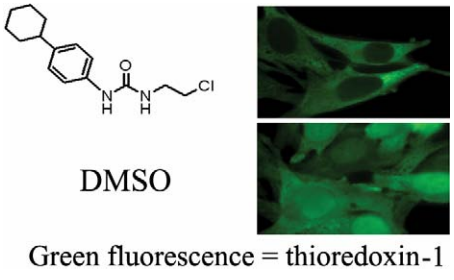

**7**, hUT binding Ki = 0.4 nM

This work describes the development of potent and selective human Urotensin-II antagonists starting from lead compound **1**. Several problems relating to oral bioavailability, cytochrome P450 inhibition, and selectivity for hUT over other receptors were addressed.




Carboline homodimers like **2.30a** were synthesized starting from D- or L-Trp–$OCH_3$ and shown to inhibit the in vitro growth of PC-3 and NCI–H520 human cancers.



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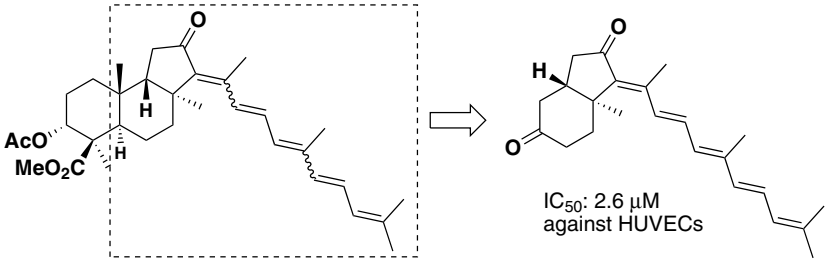
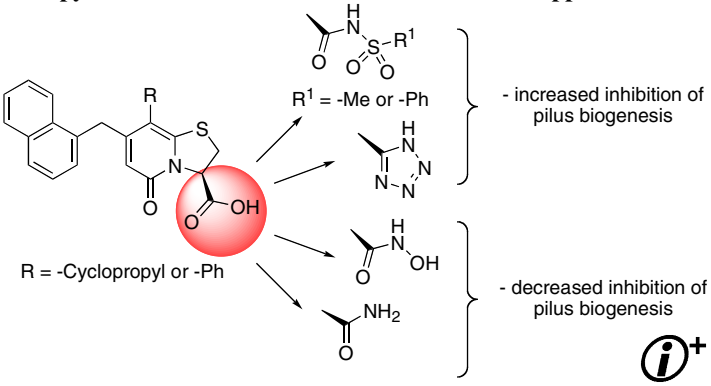
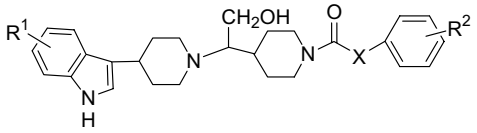


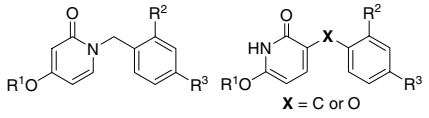




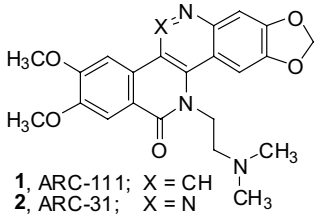
Structure–activity relationship studies led to the discovery of substituted dipiperidine alcohols as potent CCR2 antagonists displaying $IC_{50}$ values in the nanomolar or subnanomolar range.





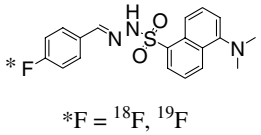
Novel 2-pyridone derivatives were synthesized and shown to be potent inhibitors of enoyl-ACP reductase from *Bacillus anthracis*.



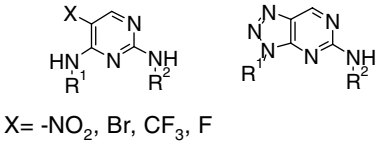


Several new TOP1-targeting agents were prepared using the *N*,*N*,*N*-trimethyl quatemary ammonium salts of either **1** or **2**.



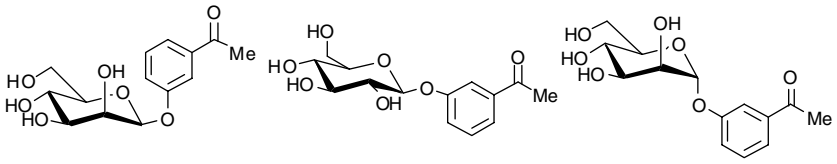


Design, synthesis, and biological evaluation of dansylhydrazones were reported.



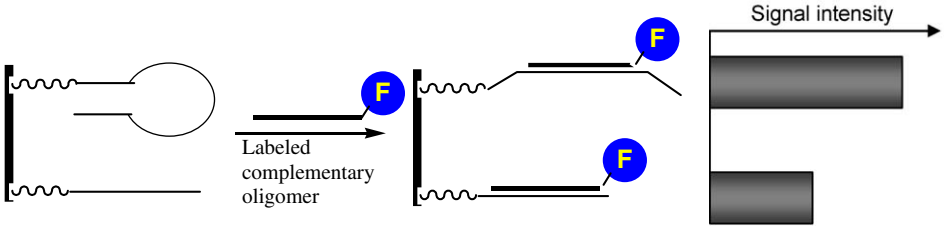

The structure–activity relationships of potent and selective pyrimidine- and azapurine-based inhibitors of glycogen synthase kinase-3 (GSK-3) are reported.





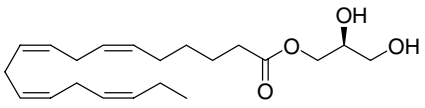
Synthesis of (acetylphenyl)glycosides, new UV-B light absorbents with antioxidant, was reported.



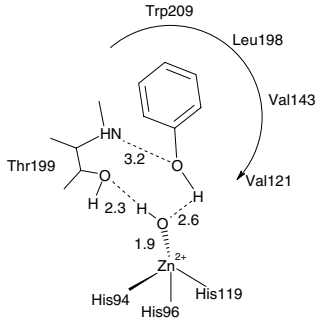



Here, we have demonstrated that the dynamics of nucleic acid hybridization in microarrays depend on the physical structure of the immobilized species.

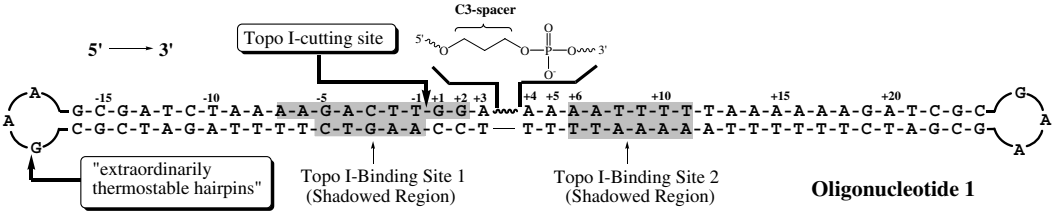




The isolation, synthesis, and bioactivity of fatty acid-derived monoglycerides are described.

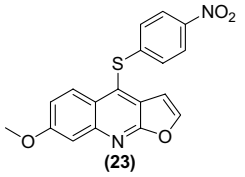





Some dumbbell-shaped circular oligonucleotides containing C3-spacer modifications and Topo I-binding sites were synthesized which displayed high inhibitory efficiency on the activity of human Topo I as well as resisted the degradation by certain DNA repair enzyme.

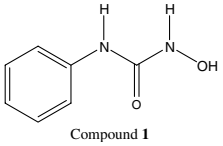





**(23)**

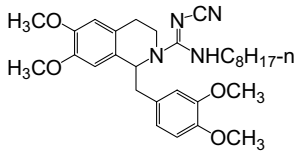
A variety of furoquinoline based novel molecules have been designed, synthesized and evaluated as multiple target inhibitor of PI3K/Akt-mTOR pathway. Compound (**23**) has shown significant inhibition of PI3K/Akt-mTOR-HIF-1α.






Compound **1**

*N*-Hydroxy-*N*′-phenylthiourea and *N*-hydroxy-*N*′-phenylurea analogues were designed and evaluated as inhibitors of tyrosinase and melanin formation. The structure of the most active analogue **1** is reported.

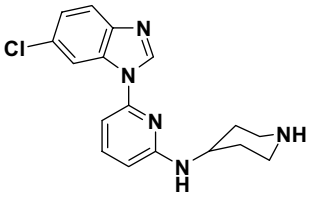



7

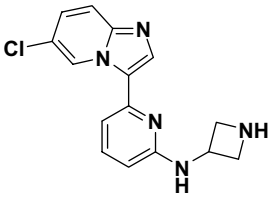
Synthesis and biological evaluation of potent MDR reversal agent **7** are reported.



Following the identification of a potent IRAK inhibitor through routine project cross screening, a novel class of IRAK-4 inhibitor was established. The SAR of imidazo[1,2-*a*]pyridino-pyridines and benzimidazolo-pyridines was explored.



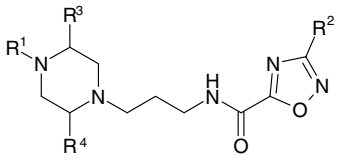

**7**, IRAK-4 $IC_{50}$ 3nM




**44**, IRAK-4 $IC_{50}$ 6nM (LE ~0.52)
TNFα inhibition 54nM



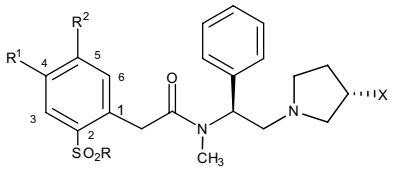
Synthesis, biological evaluation and structure-activity relationships for a series of novel nonpeptide small molecule inhibitors of GSK-3β kinase.




$R^1$= substituted phenyl
$R^2$= pyridyl, pyrimidyl, benzodioxolyl
$R^3$, $R^4$=H,Me



A series of 2-substituted sulfamoyl arylacetamides of general structure **2** were prepared as potent κ opioid receptor agonists for the dynorphin A binding domain.




**2** (X = H, OH)

## OTHER CONTENTS



*Corresponding author
ⓘ† Supplementary data available via ScienceDirect

## COVER

Overlay of high resolution co-crystal structures of *R*-**22**-ADP (cyan) and **1**-ADP (green) bound in an allosteric binding site of the mitotic kinesin KSP. [Roecker, A. J.; Coleman, P. J.; Mercer, S. P.; Schreier, J. D.; Buser, C. A.; Walsh, E. S.; Hamilton, K.; Lobell, R. B.; Tao, W.; Diehl, R. E.; South, V. J.; Davide, J. P.; Kohl, N. E.; Yan, Y.; Kuo, L. C.; Li, C.; Fernandez-Metzler, C.; Mahan, E. A.; Prueksaritanont, T.; Hartman, G. D. *Bioorg. Med. Chem. Lett.* **2007**, *17*, 5677.]



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