Bioorganic & Medicinal Chemistry 21 (2013) 373–378

Contents lists available at SciVerse ScienceDirect

Bioorganic & Medicinal Chemistry

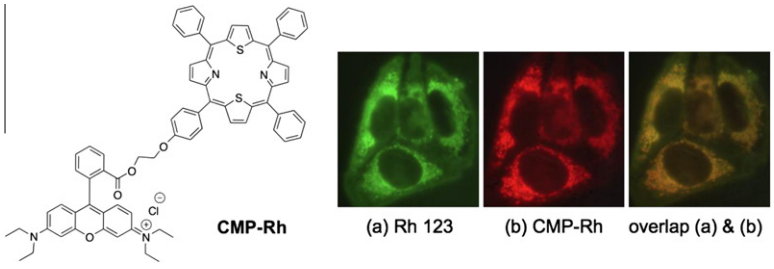
journal homepage: www.elsevier.com/locate/bmc

# Bioorganic & Medicinal Chemistry Volume 21, Issue 2, 2013

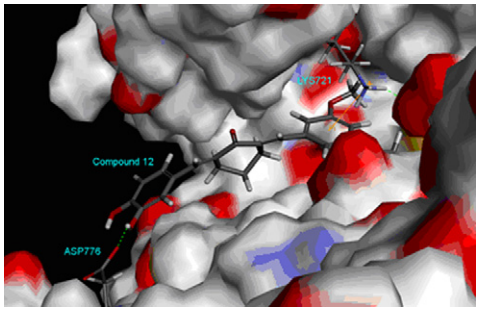
# Contents

## ARTICLES



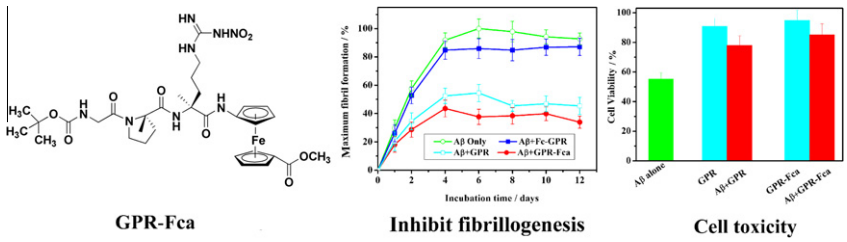




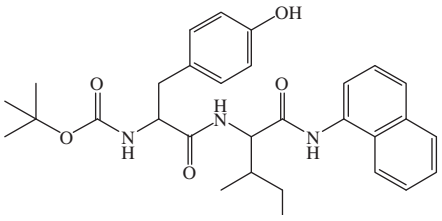




A type of novel α,β-unsaturated cyclohexanone analogous, which designed based on the curcumin core structure, have been discovered as potential EGFR inhibitors. These compounds exhibit potent antiproliferative activity in two human tumor cell lines (Hep G2 and B16-F10). Among them, compounds **$I_3$** and **$I_{12}$** displayed the most potent EGFR inhibitory activity ($IC_{50}$ = 0.43 μM and 1.54 μM, respectively). Molecular docking of **$I_{12}$** into EGFR TK active site was also performed. This inhibitor nicely fitting the active site might well explain its excellent inhibitory activity.



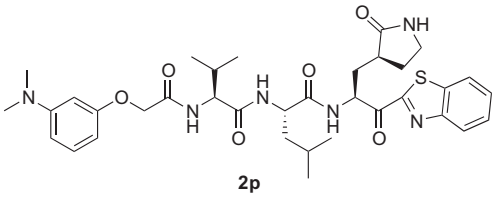



The ferrocene GPR conjugates were synthesized in solution. GPR–Fca shows stronger inhibitory effect on $Aβ_{1-42}$ fibrillogenesis and disaggregation of existing $Aβ_{1-42}$ mature fibrils. Moreover, GPR–Fca demonstrates significant protection against Aβ-induced cytotoxicity and high resistance to proteolysis.



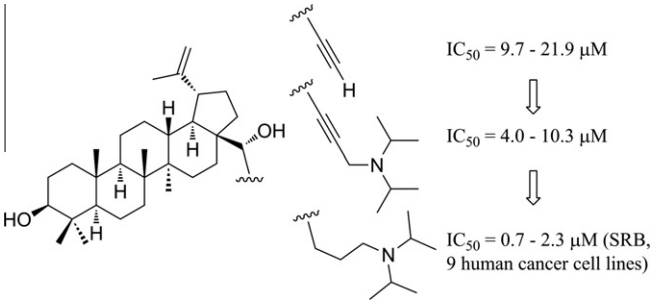
Boc-Tyr-Ile-1-naphthylamide (**4**)



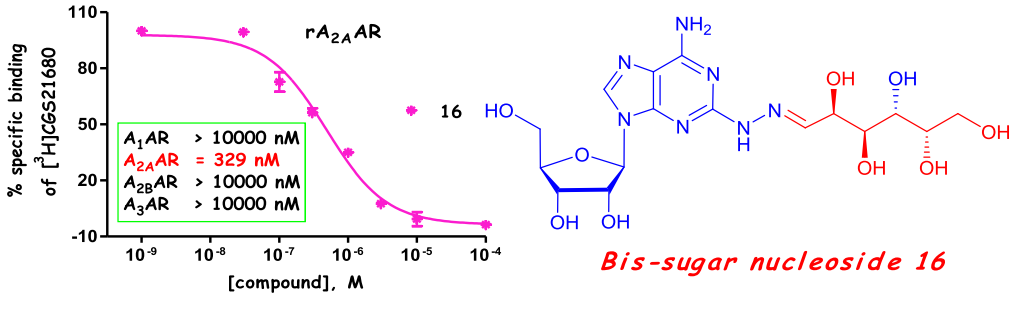


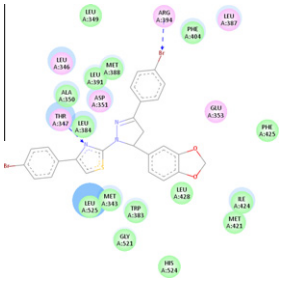
**2p**
$K_i$ = 3.1 nM



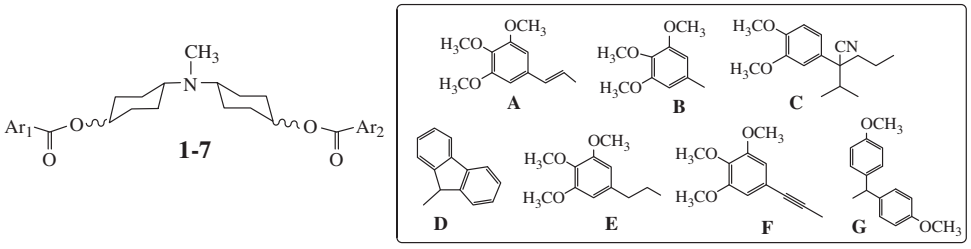




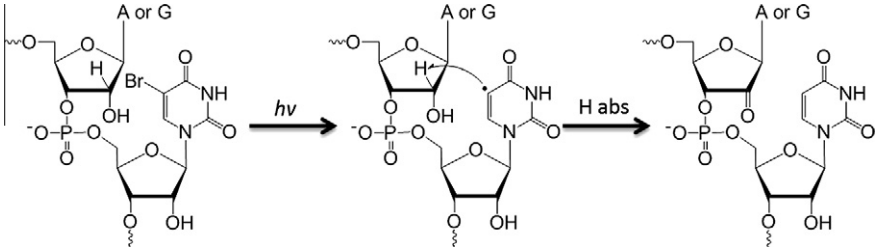





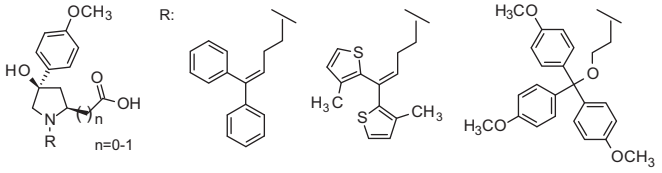


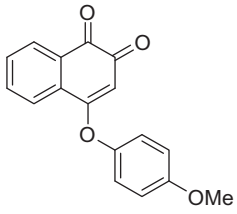






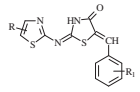






**6b**

The inhibitory effect of **6b** on LPS-stimulated inflammatory mediator production in Raw 264.7 cell is associated with the suppression of the NF-κB and MAPK signaling pathways.

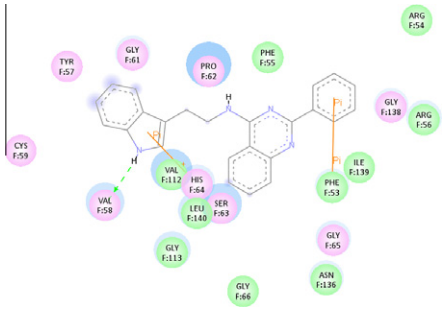




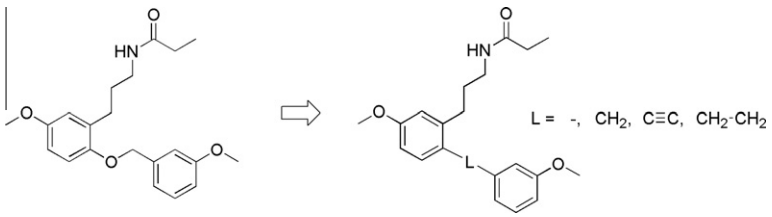
| N/N | R | $R_1$ | N/N | R | $R_1$ |
|---|---|---|---|---|---|
| 4a | H | 3-OH | 4k | H | 2,6-Cl |
| 4b | H | 3,5-$OCH_3$, 4-OH | 4l | H | 2,4-Cl |
| 4c | H | 2-$OCH_3$ | 4m | H | 2,3-Cl |
| 4d | H | 2,5-$OCH_3$ | 4n | 4-$CH_3$ | 2-Cl |
| 4e | H | 4-$CH_3$ | 4o | 4-$CH_3$ | 4-Cl |
| 4f | H | 3-F | 4p | 5-$CH_3$ | 4-$NO_2$ |
| 4g | H | 4-F | 4q | 4-Ph | H |
| 4h | H | 3-Br | 4r | 4-Ph | 2-Cl |
| 4i | H | 4-Br | 4s | 4-Ph | 3-Cl |
| 4j | H | $N(CH_3)_2$ | 4t | 4-Ph | 4-Cl |
| | | | 4u | H | 2-OH, 5-Br |

A series of new thiazolidinones were synthesized and evaluated for their antimicrobial antifungal and anti-inflammatory activity.

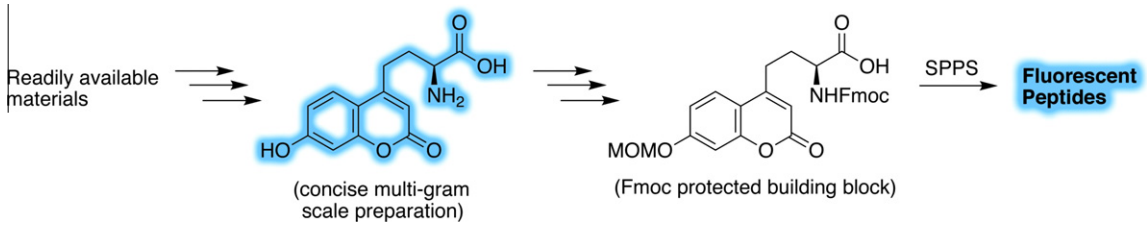




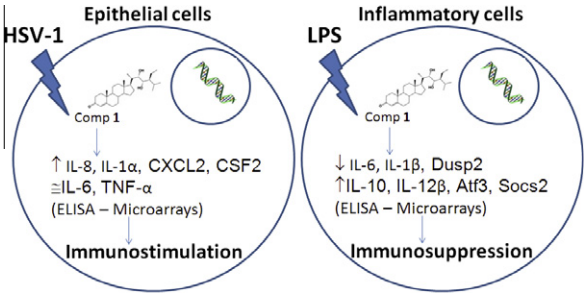



A number of novel compounds were designed, synthesized and evaluated in order to improve metabolic stability of a highly potent and $MT_2$-selective melatonin agonist. Replacement of the ether linkerage with carbon linkers retained the good potency and $MT_2$ selectivity, and removed the metabolic instability at this site.






*Corresponding author
Supplementary data available via SciVerse ScienceDirect

**COVER**

P-gp over expression in cancer cells has been considered a possible therapeutic target for circumventing MDR. P-gp-dependent MDR reversers, that should act by being co-administrated with chemotherapeutic drugs are actively sought. The cover image shows, on the left, the mechanism of extrusion of the chemotherapeutic drug (doxorubicin) by the human multidrug resistance P-glycoprotein in the absence of modulator and, on the right, its reversion in the presence of the modulator 5d, the most potent of a series of N,N-bis(cyclohexanol)amine aryl esters. [Orlandi, F., Coronnello, M., Bellucci, C., Dei, S., Guandalini, L., Manetti, D., Martelli, C., Romanelli, M. N., Scapecchi, S., Salerno, M., Menif, H., Bello, I., Mini, E., Teodori, E. *Bioorg. Med. Chem.* 456–465.]

Available online at www.sciencedirect.com
SciVerse ScienceDirect

Indexed/Abstracted in: Beilstein, Biochemistry & Biophysics Citation Index, CANCERLIT, Chemical Abstracts, Chemistry Citation Index, Current Awareness in Biological Sciences/BIOBASE, Current Contents: Life Sciences, EMBASE/Excerpta Medica, MEDLINE, PASCAL, Research Alert, Science Citation Index, SciSearch, TOXFILE. Also covered in the abstract and citation database SciVerse Scopus®. Full text available on SciVerse ScienceDirect®

ELSEVIER
ISSN 0968-0896