



Bupleurum chinense Roots: a Bioactivity-Guided Approach toward Saponin-Type NF- κ B Inhibitors

Submitted by Andreas Schinkovitz on Thu, 09/14/2017 - 15:03

Titre	Bupleurum chinense Roots: a Bioactivity-Guided Approach toward Saponin-Type NF- κ B Inhibitors
Type de publication	Article de revue
Auteur	Liu, Xin [1], Latkolik, Simone [2], Atanasov, Atanas G [3], Kunert, Olaf [4], Heiss, Elke H [5], Malainer, Clemens [6], Schinkovitz, Andreas [7], Kollroser, Manfred [8], Dirsch, Verena M [9], Bauer, Rudolf [10]
Pays	Allemagne
Editeur	Georg Thieme Verlag
Ville	Stuttgart
Type	Article scientifique dans une revue à comité de lecture
Année	2017
Langue	Anglais
Date	2017
Numéro	14/15
Pagination	1242-1250
Volume	83
Titre de la revue	Planta Medica
ISSN	0032-0943
Mots-clés	Apiaceae [11], Bupleurum chinense [12], lysophosphatidylcholine [13], NF [14], polyacetylene [15], saponin [16], κ B [17]
Résumé en anglais	<p>The roots of <i>Bupleurum chinense</i> have a long history in traditional medicine to treat infectious diseases and inflammatory disorders. Two major compounds, saikosaponins A and D, were reported to exert potent anti-inflammatory activity by inhibiting NF-κB. In the present study, we isolated new saikosaponin analogues from the roots of <i>B. chinense</i> interfering with NF-κB activity in vitro. The methanol-soluble fraction of the dichloromethane extract of <i>Radix Bupleuri</i> was subjected to activity-guided isolation yielding 18 compounds, including triterpenoids and polyacetylenes. Their structures were determined by spectroscopic methods as saikogenin D (1), prosaikogenin D (2), saikosaponins B2 (3), W (4), B1 (5), Y (6), D (7), A (8), E (9), B4 (10), B3 (11), and T (12), saikodiyne A (13), D (14), E (15) and F (16), faltarindiol (17), and 1-linoleoyl-sn-glycero-3-phosphorylcholine (18). Among them, 4, 15, and 16 are new compounds, whereas 6, previously described as a semi-synthetic compound, is isolated from a natural source for the first time, and 13-17 are the first reports of polyacetylenes from this plant. Nine saponins/triterpenoids were tested for inhibition of NF-κB signaling in a cell-based NF-κB-dependent luciferase reporter gene model in vitro. Five of them (1, 2, 4, 6, and 8) showed strong (> 50%, at 30 μM) NF-κB inhibition, but also varying degrees of cytotoxicity, with compounds 1 and 4 (showing no significant cytotoxicity) presenting IC₅₀ values of 14.0 μM and 14.1 μM in the cell-based assay, respectively.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua16219 [18]

DOI 10.1055/s-0043-118226 [19]

Lien vers le document <https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-004...> [20]

Liens

- [1] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=27171>
- [2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=27172>
- [3] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=17342>
- [4] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=17348>
- [5] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=17335>
- [6] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=17352>
- [7] <http://okina.univ-angers.fr/a.schinkov/publications>
- [8] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=17353>
- [9] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=17341>
- [10] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=17340>
- [11] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=12049>
- [12] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=23449>
- [13] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=23454>
- [14] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=23450>
- [15] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=23453>
- [16] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=23452>
- [17] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=23451>
- [18] <http://okina.univ-angers.fr/publications/ua16219>
- [19] <http://dx.doi.org/10.1055/s-0043-118226>
- [20] <https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0043-118226>

Publié sur *Okina* (<http://okina.univ-angers.fr>)