Comparative study on inhibitory activity of zerumbone and zerumbone 2,3-epoxide on NF-κB activation and NO production

Giang P.M., Son P.T., Jin H.Z., Lee J.H., Lee J.J.
Faculty of Chemistry, College of Natural Science, Vietnam National University, Hanoi, 19 Le Thanh Tong Str., Hanoi, Viet Nam; Anticancer Research Laboratory, Korea Research Institute of Bioscience and Biotechnology, Yuseong, Daejeon 305-600, South Korea

Abstract: In the present study the significant role of the α,β-unsaturated carbonyl structure in the anti-inflammatory activity of the natural humulane sesquiterpenoids zerumbone and zerumbone 2,3-epoxide was evidenced from a comparative study of the ability of zerumbone and zerumbone 2,3-epoxide to inhibit NF-κB activation and NO production in LPS (lipopolysaccharide)-stimulated RAW 264.7 cells. The IC₅₀ of these compounds were 1.97 μM ± 0.18 and 30.11 μM ± 4.10 in the NF-κB activation assay and 3.58 μM ± 0.46 and 34.7 μM ± 3.72 in the nitric oxide production assay, respectively. © Giang et al.; licensee Österreichische Apotheker-Verlagsgesellschaft m. b. H.

Author Keywords: NF-κB; NO production; Zerumbone; Zerumbone-2,3-epoxide
Index Keywords: immunoglobulin enhancer binding protein; lipopolysaccharide; nitric oxide; sesquiterpenoid; unclassified drug; zerumbone; zerumbone 2,3 epoxide; animal cell; article; controlled study; cytotoxicity; drug activity; drug structure; IC 50; mouse; nonhuman

Year: 2009
Source title: Scientia Pharmaceutica
Volume: 77
Issue: 3
Page : 589-595
Cited by: 1
Link: Scopus Link
Chemicals/CAS: nitric oxide, 10102-43-9
Correspondence Address: Giang, P. M.; Faculty of Chemistry, College of Natural Science, Vietnam National University, Hanoi, 19 Le Thanh Tong Str., Hanoi, Viet Nam; email: phanminhgiang@yahoo.com
ISSN: 368709
CODEN: SCPHA
DOI: 10.3797/scipharm.0907-16
Language of Original Document: English
Abbreviated Source Title: Scientia Pharmaceutica
Document Type: Article
Source: Scopus

Authors with affiliations:
- Giang, P.M., Faculty of Chemistry, College of Natural Science, Vietnam National University, Hanoi, 19 Le Thanh Tong Str., Hanoi, Viet Nam
References:


Matthes, H.W.D., Luu, B., Ourisson, G., Cytotoxic components of Zingiber zerumbet, Curcuma zedoaria and C. domestica