

Accepted Manuscript

Synthesis, Molecular Modeling Studies and Anticonvulsant Activity of certain (1-(Benzyl (aryl) amino) cyclohexyl) methyl esters

Walaa Hamada Abd-Allah, Mona Elsayed Aboutabl, Mohamed Nabil Aboul-Enein, Aida Abdel Sattar El-Azzouny

PII: S0045-2068(16)30341-8

DOI: <http://dx.doi.org/10.1016/j.bioorg.2017.01.021>

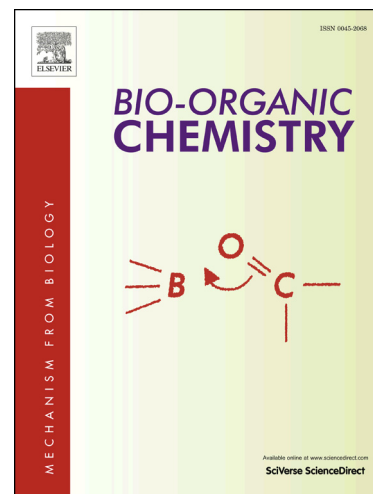
Reference: YBIOO 2010

To appear in: *Bioorganic Chemistry*

Received Date: 4 November 2016

Revised Date: 22 December 2016

Accepted Date: 29 January 2017



Please cite this article as: W. Hamada Abd-Allah, M. Elsayed Aboutabl, M. Nabil Aboul-Enein, A. Abdel Sattar El-Azzouny, Synthesis, Molecular Modeling Studies and Anticonvulsant Activity of certain (1-(Benzyl (aryl) amino) cyclohexyl) methyl esters, *Bioorganic Chemistry* (2017), doi: <http://dx.doi.org/10.1016/j.bioorg.2017.01.021>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Synthesis, Molecular Modeling Studies and Anticonvulsant Activity of certain (1-(Benzyl (aryl) amino) cyclohexyl) methyl esters

Walaa Hamada Abd-Allah¹, Mona Elsayed Aboutabl², Mohamed Nabil Aboul-Enein^{3*}, Aida Abdel Sattar El-Azzouny³

¹Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Misr University for Science & Technology, 6th of October City, Egypt.

²Pharmaceutical and Medicinal Chemistry Department, Pharmacology Group, Pharmaceutical and Drug Industries Research Division, National Research Centre (ID: 60014618), 33 El Bohouth St. Dokki-Giza-Egypt-P.O.12622

³Pharmaceutical and Medicinal Chemistry Department, Medicinal Chemistry Group, Pharmaceutical and Drug Industries Research Division, National Research Centre (ID: 60014618), 33 El Bohouth St. Dokki-Giza-Egypt-P.O.12622

Correspondence: Prof. Mohamed Nabil Aboul-Enein, Pharmaceutical and Medicinal Chemistry Department, Medicinal Chemistry Group, Pharmaceutical and Drug Industries Research Division, National Research Centre (ID: 60014618), 33 El Bohouth St. Dokki, Dokki-Giza-Egypt-P.O.12622.

E-mail: mnaboulenein@yahoo.com Fax: 002-02-37601877

Keywords: Anticonvulsants; 1-(Benzyl (aryl) amino) cyclohexyl) methyl esters; Molecular modeling; Epilepsy

A series of (1-(benzyl (aryl) amino) cyclohexyl) methyl esters **7a-n** were prepared and screened for their anticonvulsant profile. Screening of these esters **7a-n** and their starting alcohols **6a** and **6b** revealed that compound **7k** was the most potent one in the scPTZ screening test with an ED₅₀ value of 0.0056mmol/kg being about 10- and 164-fold more potent than phenobarbital (ED₅₀=0.056mmol/kg) and ethosuximide (ED₅₀=0.92mmol/kg) as reference drugs, respectively. Meanwhile, in the MES test, compounds **7b** and **7k** at doses 0.0821mmol/kg and 0.0334mmol/kg, exerted 66% and 50% protection of the tested mice, respectively, compared with diphenylhydantoin, which exerted 100% protection at dose 0.16mmol/kg. In the neurotoxicity screen test, almost all

Download English Version:

<https://daneshyari.com/en/article/5155076>

Download Persian Version:

<https://daneshyari.com/article/5155076>

[Daneshyari.com](https://daneshyari.com)