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Prediction on binding affinity of Nordentatin and Quercetin against anti-apoptotic BCL-2 Protein (Article)

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Abstract

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Targeting apoptotic cell-death pathways has been a subject of growing interest in discovery of novel anti-cancer agents. Bcl-2 is a member of Bcl-2 family protein that is crucial for cell survival by supressing apoptosis and its overexpression is frequently detected in many type of cancers. Inactivation of Bcl-2 has been considered as an ideal strategy in anti-cancer therapies. A large number of bioactive compounds derived from natural source including Nordentatin and Quercetin have been reported to possess anticancer activities. Here we report the binding affinities of Nordentatin and Quercetin in silico against anti-apoptotic Bcl-2 protein using molecular docking programs. We demonstrate for the first time that Nordentatin showed optimum binding affinity with Bcl-2, similar to those shown by Quercetin. As the Quercetin has been previously known to play a role in cancer cell apoptosis through down-regulation of Bcl-2, the result indicated that Nordentatin could also be proposed as a prospective anticancer molecule via inhibition of Bcl-2 protein. © 2018, University of Dicle.

Author keywords

Bcl-2 Nordentatin | Binding affinity | Docking | Quercetin

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References (36)

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1 Bai, L., Wang, S.
Targeting apoptosis pathways for new cancer therapeutics
(2014) *Annual Review of Medicine*, 65, pp. 139-155. Cited 81 times.
http://arjournals.annualreviews.org/loi/med
doi: 10.1146/annurev-med-010713-141310

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(2018) Journal of Physics: Conference Series

Problem-solving Test: Analysis of the mechanism of action of an apoptosis-inducing compound
Szeberényi, J.
(2015) Biochemistry and Molecular Biology Education

AutoDock and AutoDockTools for protein-ligand docking: Beta-site amyloid precursor protein cleaving enzyme 1(BACE1) as a case study
El-Hachem, N. , Haibe-Kains, B. , Khalil, A.
(2017) Methods in Molecular Biology

2 Zhao, G., Zhu, Y., Eno, C.O., Liu, Y., DeLeeuw, L., Burlison, J.A., Chaires, J.B., (...), Li, C.

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(2014) *Molecular and Cellular Biology*, 34 (7), pp. 1198-1207. Cited 30 times.
http://mcb.asm.org/content/34/7/1198.full.pdf
doi: 10.1128/MCB.00996-13

View at Publisher

3 Yip, K.W., Reed, J.C.

Bcl-2 family proteins and cancer

(2008) *Oncogene*, 27 (50), pp. 6398-6406. Cited 496 times.
doi: 10.1038/onc.2008.307

View at Publisher

4 Cotter, T.G.

Apoptosis and cancer: The genesis of a research field

(2009) *Nature Reviews Cancer*, 9 (7), pp. 501-507. Cited 498 times.
doi: 10.1038/nrc2663

View at Publisher

5 Mohammad, R.M., Muqbil, I., Lowe, L., Yedjou, C., Hsu, H.-Y., Lin, L.-T., Siegelin, M.D., (...), Azmi, A.S.

Broad targeting of resistance to apoptosis in cancer (Open Access)

(2015) *Seminars in Cancer Biology*, 35, pp. S78-S103. Cited 126 times.
http://www.elsevier.com/inca/publications/store/6/2/2/9/4/3/index.htt
doi: 10.1016/j.semcancer.2015.03.001

View at Publisher

6 Pratheeshkumar, P., Sreekala, C., Zhang, Z., Budhraja, A., Ding, S., Son, Y.-O., Wang, X., (...), Shi, X.

Cancer prevention with promising natural products: Mechanisms of action and molecular targets

(2012) *Anti-Cancer Agents in Medicinal Chemistry*, 12 (10), pp. 1159-1184. Cited 64 times.
doi: 10.2174/187152012803833035

View at Publisher

7 Sripisut, T., Cheenpracha, S., Ritthiwigrom, T., Prawat, U., Laphookhieo, S.

Chemical Constituents from the Roots of Clausena excavata and Their Cytotoxicity

(2012) *Records of Natural Products*, 6 (4), pp. 386-389. Cited 12 times.
http://www.acgpubs.org/RNP/2012/Volume%206/Issue%201/55-RNP-1104-596.pdf

8 Kawaii, S., Tomono, Y., Ogawa, K., Sugiura, M., Yano, M., Yoshizawa, Y.

The antiproliferative effect of coumarins on several cancer cell lines

(2001) *Anticancer Research*, 21 (2 A), pp. 917-924. Cited 70 times.

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