

## Studies on new 2(3H)-benzoxazolone derivatives: synthesis, characterization and cytotoxic effects

Emine Erdag  
Near East University Faculty of Pharmacy, North Cyprus



### Abstract

2(3H)-Benzoxazolone derivatives have been reported to show diverse biological activities depending on the position and type of the substituent. Recent studies show that these types of molecules could also show promising anticancer activities. A series of new Mannich bases of 2(3H)-benzoxazolone derivatives have been prepared. These molecules have piperazine group at the third position of the core structure. The structural characterization of these compounds was performed by FT-IR, <sup>1</sup>H NMR and ESI-MS analysis. These 2(3H)-benzoxazolone derivatives were analyzed for their cytotoxicity toward MCF-7 cancer cell line. Different concentrations of these molecules were incubated for 24 h and 48 h. MTT assays were employed to measure cytotoxicity and cell growth. Our results showed that, among all concentrations of 2(3H)-Benzoxazolone derivatives studied (5, 10, 20, 50 and 100 µg/ml), dimethylphenylpiperazine substituted derivative, at 50 µM concentration was more effective at inhibiting MCF-7 cell growth compared with other dilutions for 24 h and 48 h incubation period.

Current Medicinal Chemistry - Anti-Cancer Agents), 2020, 0.2174/1871520620666200721125820

2. "Studies on new 2(3H)-benzoxazolone derivatives: synthesis, characterization and cytotoxic effects"; Journal of Biotechnology, 2020, 10.1016/j.jbiotec.2019.05.285

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(<https://medicinalchemistrymeetings.pharmaceuticalconference.com/abstract/2020/studies-on-new-2-3h-benzoxazolone-derivatives-synthesis-characterization-and-cytotoxic-effects>)



### Biography:

Emine Erdag was graduated and has been doing her PhD at Near East University Faculty of Pharmacy /Department of Pharmaceutical Chemistry. Her thesis subject is about 2(3H)-Benzoxazolone derivatives which are considered ideal scaffolds for synthesis of drug candidates. They have been of interest in medicinal chemistry since they are readily available, affordable and susceptible to chemical modifications. 2(3H)-Benzoxazolone derivatives have been reported to show diverse biological activities depending on the position and type of the substituent. Their pharmacological activities include antibacterial, antifungal, analgesics-antiinflammatory, anti-nociceptive and anticancer.

### Speaker Publications:

1. "Synthesis and Apoptotic Activities of New 2(3H)-benzoxazolone Derivatives in Breast Cancer Cells"; Anti-Cancer Agents in Medicinal Chemistry (Formerly