

INVESTIGATION OF ANTIMICROBIAL AND ANTI ALZHEIMER EFFECTS OF SOME NOVEL 2-AMINO 3-CYANO 4H CHROMENE DERIVATIVES BY INHIBITING THE PRODUCTION OF AMYLOID NANOBIOFIBRILS

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Introduction: Anticancer effects in chromene family have been reported recently in several cell lines. Chromene is a family of heterocyclic compounds that are produced by fusion of Benzene ring with Piran ring. They are also intermediates of some natural products and medical factors. Chromene and derivatives are important because they have wide variety of biological properties such as spam activity , divertic, antihypertensive, and anti-anaphylaxis. Fur ther more they can also use as cognitive enhancer of neurodengenrerative diseases including Alzheimer disease, Parkinson's disease, huntington's disease, Bovine spongiform Encephalopathy and Down's syndrome. In this study antimicrobial and anti-Alzheimer effects of some chromene's derivatives are researched by inhibiting of producing of Amyloid nanoparticles.

Methods: Anti microbial effects of chromene derivatives on Escherichia coli and staphylococcus aureus were determined by Antibiotic method and well Diffusion Agar and also the amounts of MIC and MBC of chromene derivatives were determined.

Anti-Alzheimer effect also determined by spectrophotometry of congored and Transmission Electron Microscope . **Results:** Results of MIC and MBC of derivatives of 2-Amino 6-benzoeyl 4-(4-bromophenyl) 5-hydroxy 4-H-chromene 3-carbonitrile had the maximum amount of prevention of bacterial growth so that up to 1:16 concentration of this substance gram-positive bactria didn't grow. And even in eschrichia coli just a little growth of bactria in 1:8 concentration in snlge colony was observed . 2-Amino 4-(4-fluorophenyl) 7-hidroxy 4-H-chromene 3-carbonitrile could prevent growth of gram-positive bacteria in 1:2 concentration and gram-negative

bacteria up to 1:4. 6-acetyl 2-amino 5-hydroxy 4-(4-nitrophenyl) 4-H-chromene 3-carbonitrile prevented growth of both gram-positive and gram-negative bacteria in 1:4 concentration. The decline of Amyloid production in present of these derivatives prove Anti-Alzheimer properties of chromene's derivatives. Conclusion: Derivatives of chromene which studying in this study have had Antimicrobial effects and they also decrease the amount of Amyloid biofibrils reasonably so they can use as an appropriate candid for decreasing clinical presentation.

Keywords : Key words: chromium derivatives, antimicrobial effects, anti-Alzheimer's, amyloid effects, nanobiofibril

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