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Synthesis and screening of newer *quinazolin-3(h)-4-0ne* derivatives for anticonvulsant activity

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Abstract

Quinazolin-4(3H)-one analogues are reported to possess anticonvulsant activity due to non competitive anatagonism of AMPA receptors (α-amino-3-hydroxy-5-methyl-4-isoxazole propionic acid receptor). Various Schiff bases of 3-amino-2-phenylquinazolin-4(3*H*)-one were synthesized after optimizing the molecules for the drug likeness profile and bioactivity index using molinspiration software. The selected candidates were prepared by condensing 3-amino-2-phenylquinazolin-4(3*H*)-one with different biologically active aryl aldehydes and ketones using microwave irradiation. 2-Phenyl-3-{[(1*E*)-substituted arylmethylene]amino}quinazolin-4(3*H*)-one analogous synthesized were characterized by spectral and elemental analysis. The compounds were tested for the preliminary acute toxicity profile before evaluating their anticonvulsant activity using maximal electrical shock (MES) method. Among the compounds synthesizes 3-{[(3*E*)-2-oxo-1,2-dihydro-3*H*-indol-3-ylidene]amino}-2-phenylquinazolin-4(3*H*)-one exhibited significant anticonvulsant activity comparable with that of phenytoin.

Biography

Dr. Jayasekhar Nair has completed his PhD degree in pharmaceutical chemistry from. He is working as Professor of medicinal chemistry and chair of Pharmacy Program of Oman Medical College and. He has 25 years of teaching and research experience in medicinal chemistry and lot scientific publications in reputed international journals to his credit. At present he is supervising four PhD candidates and his areas of research interest are molecular modification and pharmacological screening of heterocyclic molecules and computer- aided drug design.