

Antimicrobial and Antifungal Activity of Chromene and Pyrimidine derivatives

Mahesh Walle

Sundarrao More Arts, Commerce and Science College Poladpur-Raigad

mahesh.walle@gmail.com

Abstract: *Chromene analogues are widely recognized for their diverse biological activities, including antimicrobial properties. In this study, we evaluated the antifungal and antibacterial potential of four chromene derivatives: 2-Amino-5-oxo-4,5-dihydropyrano[3,2-c]chromene-3-carbonitrile (4-nitro derivative), Dioxooctahydroxanthene (4-hydroxyl derivative), Tetrahydro[b]pyran (4-chloro derivative), Pyrano[2,3-d]pyrimidine diones (4-methoxy derivative). The bioactivity of these compounds was assessed against selected bacterial and fungal strains using standard antimicrobial assays. The results demonstrated significant antibacterial and antifungal activity, with variation in potency depending on the substituent groups present on the chromene core. Among the tested compounds, some showed moderate to good antimicrobial efficacy against selected strains, while the some comound showed notable antifungal activity. The findings suggest that structural modifications in chromene scaffolds influence their antimicrobial properties, highlighting their potential as lead compounds for novel antimicrobial drug development.*

Keywords: Chromene, antifungal, antimicrobial, Bacillus subtilis, Pseudomonasaerugianosa, E Coli, Staphylococcus aureus, Aspergillusnigar

