

Very First Synthesis of Carbazole Conjugates with Efflux Pump Inhibitor as Dual Action Hybrids

Authors : Ghazala Yaqub, Zubi Sadiq, Almas Hamid, Saira Iqbal

Abstract : This paper is the very first report of three dual action hybrids synthesized by covalent linkage of carbazole based novel antibacterial compounds with efflux pump inhibitors i.e., indole acetic acid/gallic acid. Novel carbazole based antibacterial compounds were prepared first and then these were covalently linked with efflux pump inhibitors which leads to the successful formation of hybrids. All prepared compounds were evaluated for their bacterial cell killing capability against *Escherichia coli*, *Staphylococcus aureus*, *Pasteurella multocida* and *Bacillus subtilis*. Compound were effective against all tested bacterial strains at different concentrations. But when these compounds were linked with efflux pump inhibitors they showed dramatic enhancement in their bacterial cell killing potential and minimum inhibitory concentration of all hybrids ranges from 7.250 µg/mL to 0.0283 µg/mL.

Keywords : antimicrobial assay, carbazole, dual action hybrids, efflux pump inhibitors

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