

β-Lactamase Inhibitory Effects of Anchusa azurea Extracts

Authors : Naoual Boussoualim, Hayat Trabsa, Iman Krache, Lekhmici Arrar, Abderrahmane Baghiani

Abstract : Resistance to antibiotics has emerged following their widespread use; the important mechanism of beta-lactam resistance in bacteria is the production of beta-lactamase. In order to find new bioactive beta-lactamase inhibitors, this study investigated the inhibition effect of the extracts of *Anchusa azurea* (AA) on a beta-lactamase from *Bacillus cereus*. The extracts exerted inhibitory effects on beta-lactamase in a dose-dependent manner, the results showed that the crude extract (BrE) and the ethyl acetate extract (AcE) of *Anchusa azurea* showed a very high inhibitory activity at a concentration of 10 mg, the percentage of inhibition was between 58% and 68%. Not all extracts were as potent as the original inhibitors such as clavulanic acid, the isolation and the structural elucidation of the active constituents in these extracts will provide useful means in the development of beta-lactamase inhibitors.

Keywords : *Anchusa azurea*, natural product, resistance, antibiotics, beta-lactamase, inhibitors

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