

Bioassay Guided Isolation of Cytotoxic and Antimicrobial Components from Ethyl Acetate Extracts of *Cassia sieberiana* D.C. (Fabaceae)

Authors : Abubakar Sani, Oumar Al-Mubarak Adoum

Abstract : The leaves extracts of *Cassia sieberiana* D.C. were screened for antimicrobial bioassay against *Staphylococcus aureus*, *Salmonella typhi*, and *Escherichia coli* and cytotoxicity using Brine Shrimp Test (BST). The crude ethanol extract, Chloroform soluble fraction, aqueous soluble fraction, ethyl acetate soluble fraction, methanol soluble fraction, and n-hexane soluble fraction were tested against antimicrobial and cytotoxicity. The Ethyl acetate fraction obtained proved to be most active in inducing complete lethality at minimum doses in BST and also active on *Salmonella typhi*. The Bioactivity result was used to guide the column chromatography, which led to the isolation of pure compound CSB-8, which was found active in the BST with LC50 value of 34(722-182) $\mu\text{g/ml}$ and showed remarkable activity on *Salmonella typhi* (zone of inhibition 25mm) at 10,000 $\mu\text{g/ml}$. The $^1\text{H-NMR}$, $^{13}\text{C NMR}$, FTIR, and GC-MS spectra of the compound suggested the proposed structure to be 2-pentadecanone.

Keywords : antimicrobial bioassay, cytotoxicity, column chromatography, *Cassia sieberiana* D.C.

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