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## Anti-oxidant, anti-inflammatory, anti-bacterial, total phenolic/flavonoids and cytotoxic activities of *Cordia africana*

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*Cordia africana* (Boraginaceae) is a tree used in traditional medicine to treat inflammatory related conditions and infectious diseases. This study was undertaken with the objectives of establishing the scavenging effect of extracts and fractions of *Cordia Africana* on the mediator of inflammation Lipoxygenases (LOX), and some non-biological free radicals such as 2,2-diphenyl-1-picrylhydrazyl (DPPH), the [2, 2-azinobis(3-ethylbenzothiazoline-6-sulfonic acid)] (ABTS) radicals and the Ferric ion reducing antioxidant power (FRAP). Antimicrobial activities, total phenolics/flavonoids and cytotoxicity of extracts of *Cordia Africana* were also evaluated. Extracts were obtained by maceration. Anti-inflammatory activity was determined using a LOX-inhibitor screening assay kit according to the manufacturer's instructions. A broth serial micro dilution method was used to determine the minimum inhibitory concentration (MIC) against, Gram-positive and Gram-negative bacteria. The antioxidant activity was determined using free-radical-scavenging assays, and the 3-(4,5-dimethylthiazolyl-2)-2,5-diphenyltetrazolium bromide reduction assay was used for cytotoxicity. All the extracts of *C. africana* inhibited LOX enzyme. The most active being the hexane extract of the leaves with IC<sub>50</sub> value of 190±0.9 µg/ml. With the exception of the Methanol extract of bark of *C. africana*, all extracts had excellent to weak antimicrobial activity (MICs ranging from 16 to 1024 µg/ml) bacteria. All the extracts had free-radical scavenging activity (IC<sub>50</sub> ranging from 5.20 to 314.30 µg/ml). There was a positive correlation between the antioxidant activity and the total flavonoid and total phenolic contents of *Cordia africana*. The cytotoxicity on Vero cells was reasonable to low with LC<sub>50</sub> values ranging between 56.23 and 800 µg/ml. Our results support the use of *C. africana* leaves in traditional medicine to treat inflammatory related conditions and infectious diseases.

### Biography

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