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## *Nauclea pobeguinii* and *Uapaca togoensis* has the potential to fight against multi-drug resistant (MDR) gram negative bacteria and cancer cells lines

**Armel Jackson Seukep**[1], **Bonaventure Ngadjui**[2] and **Victor Kuete**[1]
[2]University of Yaoundé I, Cameroon
[1]University of Dschang, Dschang, Cameroon

Bacterial infections and cancers caused by multidrug resistant phenotypes constitute a worldwide health concern, especially in developing countries. The propagation of MDR phenotypes is a great challenge for scientist for the discovery of novel chemotherapeutic agents. These explain our endeavor to evaluate the bioactivity of methanolic extracts from different parts of 2 Cameroonian medicinal plants against: 29 Gram negative MDR bacteria, 9 MDR cancers cells and 1 normal hepatocyte cells. Chromatography and spectroscopy methods were used for extracts purification. Broth microdilution method and resazurin reduction assay were used for antibacterial and cytotoxic activities respectively. Bark of *Nauclea pobeguinii* (NPB) and fruits of Uapaca togoensis (UTFr) presented the most significant antibacterial and cytotoxic activities. Seven and six compounds were isolated from NPE and UTFr respectively. The most active compounds were resveratrol (from NPE) and arborinine (from UTFr) respectively on bacteria and cancers cells. NPB, UTFr and resveratrol potentiate significantly the efficacy of commonly used antibiotic. These constituents act at latency phase during the kinetic growth of *E. coli* ATCC 8739 at MIC value, by inhibition of H+-ATPases *E. coli* protons pumps and by disturbance of membrane integrity; otherwise UTFr and arborinine arrest the cell cycle in G0/G1 and G0/G1, S phases respectively, CCRF-CEM cells progressively enter apoptosis after treatment with UTFr and arborinine within 72 h. UTFr also induces significant decrease of mitochondrial membrane permeability (φm) in the CCRF-CEM leukemia cells contrary to its most active component arborinine. The most active extracts and compounds show less toxicity against normal hepatocytes humans cells AML12. The results give the baseline for the use of NPB, UTFr, resveratrol and arborinine in the control of bacterial infections and cancers associated to MDR phenotypes.

seukepp@gmail.com