



**Original Paper**

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## Chemical constituents of *Solanum mauense* (Solanaceae) and *Dovyalis abyssinica* (Salicaceae)

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### ABSTRACT

Profiling the chemical constituents of medicinal plants used in folk medicine is vital in enhancing their full exploitation and utilization in modern medicine. The objective of the study was to characterize anticancer compounds from two medicinal plants, *Dovyalis abyssinica* and *Solanum mauense* that are used in folk medicine by the Kipsigis community, in Kenya, in managing various ailments. There is unvalidated folk medicine claim that the decoctions from the roots of *D. abyssinica* and fruits of *S. mauense* have anticancer property among other uses. This study reports on phytochemistry of *D. abyssinica* and *S. mauense*. Cold extraction method via soaking in solvents was used to prepare the dichloromethane crude extracts, which were later fractionated and purified using chromatographic techniques. Betulinic acid, benzoylated triterpenoid and fatty acids were isolated from dichloromethane extract of *S. mauense*. Similarly, two compounds, benzoic acid and tremulacin, were isolated from *D. abyssinica* alongside fatty acid. Anticancer property of betulinic acid, benzoic acid derivative and tremulacin has been reported previously in literature. This study gives the scientific basis for the use of these medicinal plants in folk medicine.

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**Keywords:** Medicinal plants, *Solanum mauense*, *Dovyalis abyssinica*, Betulinic acid and tremulacin.

### INTRODUCTION

Cancer is a general term applied to a series of malignant diseases that may affect different parts of a body (Sakarkar and Deshmukh, 2011). These diseases are characterized by a rapid and uncontrolled formation of abnormal cells, which may mass together to form a growth or tumor, or proliferate throughout the body, initiating

abnormal growth at other sites. Cancers may be caused in one of three ways, namely incorrect diet, genetic predisposition, and via the environment (Bhanot et al., 2011). The major treatment regime for cancer includes chemotherapy, radiotherapy and surgery (Owoeye et al., 2010). The synthetic anticancer remedies are beyond the reach of common man because of cost factors. Higher