Antiinflammatory and antileukemic-like activities of R01Yob, a medicinal plant of the Rwandese pharmacopeia

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BACKGROUND

The identification of new compounds with potential anticancer activity derived from herbaceous food or medicinal plant extracts has been widely explored in recent years. Over 75% of the currently used anticancer agents are derived from natural sources such as plants, marine organisms and microorganisms (Tariq et al., 2017). However, only a small portion of higher plants have been prospected for bioactive compounds. Studies have already shown that cytotoxic substances targeting cancer cells are good candidates for the development of new anticancer drugs (Sriwiriyajan et al., 2014). Therefore, further studies are needed to identify more efficient, with less side effects, new compounds in cancer prevention and treatment (Tomani et al., 2018).

AIM OF THE STUDY

The present study aims at addressing at the molecular and functional levels the antiinflammatory and the antileukemic-like activities of R01Yob, a plant of the Rwandese pharmacopeia.

RESULTS

The antiinflammatory activities of R01Yob extract was performed using the Caspase-1 Glo assays (Promega) and the THP-1 cells. At 25µg/ml the extract revealed inhibitory effect but this was lost with higher doses, suggesting cell death leading to inflammation.

Fig. 1: Inhibition of the caspase-1 activity by R01Yob extract. The plant extract inhibited the inflammasome/caspase-1 activity in THP-1 derived macrophages. However, the activity decreases due to the low solubility of the extract in water.

CONCLUSION AND PERSPECTIVE

Taken together, this study has shown that R01Yob could be a potential source of anticancer drug. Its inhibitory effect on the caspase-1 activity suggest that it could also be used in the treatment of the inflammasome-caused diseases. Further investigations are needed to characterize active molecules and their mechanisms of action.

REFERENCES


ACKNOWLEDGEMENT

Our thanks are due to the Government of Rwanda and to the « Académie de Recherche et d’Enseignement Supérieur (ARES) » for funding this research.