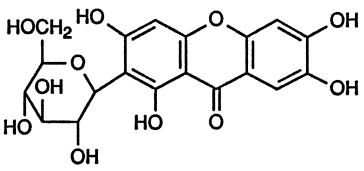
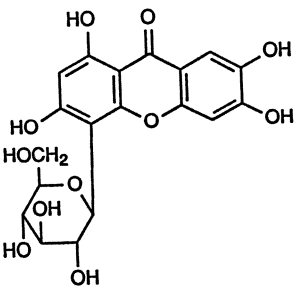
Recently, Takahashi et al. have reported the isolation of four glycans from the rootstock of *A. asphodeloides:* anemarans A, B, C, and D [8].

From the aerial part of *A. asphodeloides*, two xanthone C-glucosides, mangiferin (*15-6*) and isomangiferin (*15-7*), were isolated [9, 10] and structurally elucidated [10, 11].



Mangiferin (*15-6*)



Isomangiferin (*15-7*)

Mangiferin was also isolated from the rootstock; contents varied with the collection period and were lowest in March (0.12%) and highest in April (1.26%) [12].

15.3 Pharmacology

The saponin fraction isolated from the rootstock of *A. asphodeloides* and its hydrolysis product, sarsasapogenin, as well as its hemisuccinyl derivative all showed potent inhibitory action on Na^+/K^+ ATPase and decreased oxygen uptake in thyroxine-treated liver. The inhibitory action of the hemisuccinyl derivative was even more potent than that of ouabain [13]. Sarsasapogenin also inhibited the Na^+/K^+ ATPase of human red blood cells in vitro. The inhibitory effect developed slowly and could be enhanced by external sodium ions and antagonized by external rubidium ions. The inhibitory activity of sarsasapogenin on the ATPase may be related to its antipyretic action [14].

The norlignans hinokiresinol and its oxy- and tetrahydro-derivative all showed significant inhibitory activity on cAMP phosphodiesterase in vitro. Moreover, hinokiresinol prolonged the duration of hexobarbital-induced sleep in mice when given at a dose of 25–100 mg/kg [7].

The four glycans, anemarans A, B, C, and D, showed a significant hypoglycemic effect in normal and in alloxan-induced hyperglycemic mice [8].

References

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