

Conference abstract PO-67

Ethnopharmacological investigations on *Pluchea odorata* (L.) Cass.

S. BAUER¹, R. POPESCU², G. KRUPITZA¹, J. SINGHUBER²

¹ Institut f. klinische Pathologie, Medizinische Universität Wien, Währinger Gürtel 18–20, 1090 Wien, Austria

² Department f. Pharmakognosie, Universität Wien, Althanstraße 14, 1090, Wien, Austria

E-mail: georg.krupitza@meduniwien.ac.at (G. Krupitza)

Sci Pharm. 2009; 77: 266

doi:10.3797/scipharm.oephg.21.PO-67

A high percentage of medicinal drugs used in western medicine are derived from natural products and therefore herbal remedies used in traditional medicine of exotic civilisations can be a rich source for the development of novel drugs [1].

In recent investigations [2] we found a strong anti-neoplastic activity from aerial parts of *Pluchea odorata* (L.) Cass., Asteraceae, a plant used by the Maya to treat severe inflammatory conditions.

Hence, bioassay-guided fractionation was carried out to enrich the active compound(s). The plant material was subsequently extracted with solvents of different polarity, i. e. petroleum ether, dichloromethane, ethylacetate, methanol, and water.

The dichloromethane extract showed the highest anti-proliferative activity in HL-60 cell line. Thus it was re-chromatographed by vacuum liquid chromatography (methanol-water in different ratios), normal column chromatography (chloroform-methanol-water gradient) on silica gel KG60 and RP-18 solid phase extraction (methanol-water).

The bioassay-guided fractionation indicated that the anti-proliferative activity of *Pluchea odorata* is due to a fraction containing highly apolar constituents. Investigations on other *Pluchea* species reported sesquiterpenes and flavonoids as major compounds [3, 4]. Positive reactions with spraying reagent anisaldehyde sulphuric acid on TLC propose the presence of sesquiterpenes in the active fractions.

-
- [1] Cragg GM, Newman DJ and Yang SS. Natural product extract of plant and marine origin having antileukemia potential. The NCI experience. J Nat Prod. 2006; 69: 488–498. doi:10.1021/np0581216
 - [2] Gridling M, Stark N, Madlener S, Lackner A, Popescu R, Benedek B, Diaz R, Tut MF, Thanh-Phuong Vo N, Huber D, Gollinger M, Saiko P, Mosgoeller W, de Martin R, Eytner R, Wagner KH, Grusch M, Ritzer-Szekeres M, Szekeres T, Kopp B, Frisch R, Krupitza G. In vitro anticancer activity of two ethnopharmacological healing plants from Guatemala: *Pluchea odorata* and *Phlebodium decumanum*. Int J Oncol; in press.
 - [3] Fatope MO, Nair RS, Marwah RG, Al-Nadhiri, HHS. New Sesquiterpenes from *Pluchea arabica*. J Nat Prod. 2004; 67: 1925–1928. doi:10.1021/np040054c
 - [4] Vera, N, Misico R, Sierra MG, Asakawa Y, Bardon, A. Eudesmanes from *Pluchea sagittalis*. Their antifeedant activity on *Spodoptera frugiperda*. Phytochemistry. 2008; 69: 1689–1694. doi:10.1016/j.phytochem.2008.02.020