Biologically guided fractionation of the hepato protective plant *Onopordum alexandrinum* Boiss. growing in Egypt

Liver diseases are a worldwide problem and in spite of the tremendous advances in modern medicine, no effective drugs are available to overcome such liver problems. This fact puts a challenge for scientists to explore the potential of hepato protective activity of plants based on traditional use. Members of the family Asteraceae especially tribe Cynareae are known for their efficacy in relieving some liver disorders. Cynareae tribe is represented in Egypt by many genera such as *Silybum*, *Cynara*, *Centaurea*, *Carduus*, *Onopordon* and others. Therefore, some plants belonging to the tribe Cynareae growing in Egypt were evaluated for their hepato protective activities. Of the studied plants *Cynara cornigera* and *Onopordum alexandrinum* was found to be active. Therefore we found it would be worthwhile to carry a biologically guided phytochemical study of these plants. In the present study the ethanol extract of *Onopordum alexandrinum* Boiss. was fractionated and fractions were subjected to hepato protective assays using Wistar albino rats at a dose of 500 and 250 mg/kg depending on the case. The liver injury was induced in rats using carbon tetrachloride. The biochemical parameters such as aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP) and total bilirubin were estimated as reflections of the liver condition with silymarin as reference hepato protective drug. Phytochemical investigation and chromatographic separation of the hepato protective fractions led to the isolation of eleven compounds; Luteolin-7-O-rutinoside, Apigenin-7-O-rutinoside, Acacetin-7-O-rutinoside, Luteolin-7-O-β-D-glucopyranoside, 3, 4- dihydroxy benzoic acid, p- hydroxy benzoic acid, Indole-3-carbaldehyde, Acacetin, Pedalitin, Apigenin and Luteolin. Five of these compounds were isolated for the first time from genus *Onopordum* and one was isolated for the first time from family Asteraceae.

**Biography**

Abdalla Omar received his PhD from Alexandria University, faculty of Pharmacy in the field of Pharmaceutical Sciences (Pharmacognosy). He had his Post-Doctoral fellow from the College of Pharmacy, The Ohio State University, USA. He held several academic and administrative positions including: Research Prof. College of Agriculture, King Saud University (KSA), Visitor Res. Prof., Inst. of Organic Chemistry, Technical University Berlin (Germany). Visitor Prof. Arab University (Beirut). Chairman, Pharmacognosy Department, Alexandria University, General Manager, The Pharmacy Research Unit, Faculty of Pharmacy and General Manager of Medizen Pharmaceuticals, Egypt. He has published more than 60 papers in reputed journals. He has the honor of working with some great scientists in natural products as late professors Jack Beal and R Doskotsh of Ohio State University, Prof F Bohlmann of Berlin, and also has several publications with different international groups as the team of Prof. Savona and Piozzi of Italy, and Royal Danish School of Pharmacy.

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