Inhibition of histamine-induced inflammatory reactions in intestinal mucosa by STW 5
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Herbal medicine is a therapeutic option in the therapy of irritable bowel syndrome (IBS), a disease, for which an inflammatory etiology is discussed. In such inflammatory reactions in the gastrointestinal tract, histamine seems to be an important trigger. So the question raised, whether STW 5, a herbal medicine with clinically proven efficacy in the therapy of IBS (2), and consisting of a fixed combination of 9 herbal extracts, has anti-inflammatory and antioxidant effects (3). For the measurements of these effects a pharmacological model involving mucosa preparations from mouse ileum was developed. As a marker of inflammatory reactions, free radical production was measured via luminol-enhanced chemiluminescence. Histamine (5 to 100μmol/L) strongly increased this parameter. Similar to the antioxidant trolox, STW 5 had a significant inhibitory effect even in dilutions down to 0.1μmol/L. From the extracts contained in STW 5, those from peppermint and chamomile showed highest effects, that of greater celandine herb was least active. It can be concluded, that ileal mucosa preparations stimulated by histamine are a model with significant relevance in studies on diseases involving intestinal inflammation. The inhibitory effects exerted by STW 5 and its constituents in that reaction might be involved in its therapeutic effects. References: 1. Breuing et al. 2007, J Physiol 585:731. 2. Maisch et al. 2004, Allergol Immunol Ther 19, 271 – 279; Germann et al. 2006, PhytoMedicine, 13, 45 – 50.

Authentication of plants and drugs/DNA-Barcoding/PCR profiling

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Metabolotaxy of Tibetan medicinal plant Helania elliptica with HPLC
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Helania elliptica (Gentianaceae) has an extensive distribution and was a traditional medicines use in China [1]. It possess the ability to reduce fever, detoxify and act as cholericetic and liver tonics, it has been mainly used for the treatment of hepatic and choleric and inflammatory diseases, such as hepatitis, cholecystitis. Some other Gentianaceae species, in particular, Swertia yunnanensis, S. franchetiana and S. tetraptera are often marketed as H. elliptica, and therapeutic effects of H. elliptica are not achieved. In this study, a simple, reliable and reproducible method, base on high performance liquid chromatography (HPLC), for developing chromatographic fingerprints to discriminate among these species is described. The data of fingerprints of H. elliptica and its adulterants established by HPLC were all processed with two kinds of mathematic methods including correlation coefficient and cosine value of vectorial angle to validate their similarities. The chromatographic profiles including retention time and peak area are different between H. elliptica and Swertia species. The similarity coefficients of H. elliptica and three Swertia species (S. eriostachya, S. franchetiana and S. tetraptera) were of 0.325, 0.436 and 0.774, respectively. H. elliptica was closely related to S. tetraptera, with similarity coefficients of 0.774. This conclusion agrees fully with results from molecular and morphology studies S. tetraptera is the closest living relative of H. elliptica. This method provides effective and accurate identification of H. elliptica. Acknowledgements: This research was supported by the Natural Science Foundation of China (NSFC 30770153 to CY Xue). References: 1. Yang YC. Tibetan Medicines. Qinxhai People Press, Qinhai. (in Chinese); 1991. p.111.