

PROPOLIS ENRICHMENT BY USING MACROPOROUS RESINS

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Adsorption and desorption of pharmacologically active natural products on the surface of adsorptive macroporous resins has gained unlimited popularity¹. High adsorption capacity, easy regeneration and low operational expense of adsorptive macroporous resins make them more attractive for the developing natural products from plant and animal origin for food and pharmaceutical application. In recent years, macroporous resins have been intensively subjected in purification and enrichment of natural products²⁻⁴.

The present abstract relates to a purified propolis-extract. Enrichment and purification of Tajikistan propolis was achieved via adsorption and desorption of propolis on the surface of AB-8, D101, HPD300, HPD450, HPD700, HPD750 and HPD826 macroporous resins. That resulted in quality improvement of propolis which is experimentally confirmed by HPLC, LC MS/MS, total phenol and flavonoid contents, and *in vitro* DPPH, ABTS antioxidant activity assays. Purification method with macroporous resin of propolis is a simple, cheap and efficient for the preparation of high quality of propolis containing the biologically active fraction.

The obtained results indicated that Tajikistan propolis was rich with polyphenols (polyphenolic acid and flavonoids). The most abundant components were kaempferol, pinobanksin, pinocembrin caffeic acid esters, chrysin and their derivatives. The quality and activity of propolis after purification became 2.2-7.5 times stronger than prototype propolis (the natural specimen of propolis). Purified propolis-extract and its preparation method using macroporous resins represents great interest for medicine, pharmaceutical and food industries.

References

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