

Immunomodulating Polysaccharide Fractions of *Menyanthes trifoliata* L.

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Looking for new plant sources of immunomodulating agents polysaccharide-rich fractions (PS) from *Menyanthes trifoliata* L. (Menyanthaceae) have been isolated. The herb of *Menyanthes trifoliata* L. was sequentially extracted with water, 0.1 M NaOH, 8% CH₃COOH, and 1 M NaOH. After dialysis and resolution on Biogel P-10 four homogenic (B-4, B-5, C-4, D-5) and two nonhomogenic (A-3 and D-4) PS were isolated. About 0.5% of PS over 3500 Da were found in the dry plant material. They were characterized through chemical analysis, NMR and vibrational spectroscopy. Speciation analysis of chosen metal/metalloid elements was performed and an exceptionally high concentration of Se was found in PS of a pure water extract (A-3). The biological tests on the immunomodulating influence with human blood-derived lymphocytes and granulocytes revealed that two fractions, B-4 and B-5, were strong stimulators of immune cells, whereas fractions D-5 and A-3 were found as potent suppressive and anti-inflammatory agents. The applied isolation procedures led to the separation of active compounds into stimulatory and inhibitory fractions.

Key words: Immunomodulating Activity, *Menyanthes trifoliata* L., Speciation of Elements