

PP47. ISOLATION AND BIOLOGICAL ACTIVITY OF *NITRARIA SIBIRICA* POLYSACCHARIDES

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Nitraria sibirica Pall is a traditional Chinese medicine (TCM) and rich in polysaccharides. The Xinjiang district of China is rich in *Nitraria sibirica* resources. Numerous preparations containing *Nitraria sibirica* have been used to treat various diseases in TCM. However, the relevant studies lack systematicness in both chemistry and pharmacodynamics, and the effective substances are still not clear. They are facing the crisis of "insufficient scientific interpretation of drug theory" and "unclear source of medicinal materials", which leads to the lack of scientific methods and indicators for the quality control of *Nitraria sibirica* or its preparations. Therefore, it is essential to systematically study genuine medicinal materials to solve the problems such as the confusion of medicinal materials, the lack of related literature, and theoretical basis. In this paper, the isolation and bioactivity evaluation of polysaccharides from the *Nitraria sibirica* medicinal material was systematically discussed, which laid an important basis for elucidating the theoretical basis of its medicinal substances. The main findings are as follows:

The ultrasonic-assisted extraction of *Nitraria sibirica* polysaccharides (NSP) was optimized by response surface methodology. The results showed that the optimum conditions were liquid-solid ratio 33 mL/g, ultrasonic power 430 W, ultrasonic temperature 60 °C and ultrasonic time 70 min. At this condition, the yield of NSP was up to 14.63 ± 0.21%. Four homogenous polysaccharides, namely NSP-a, NSP-b1, NSP-b2, and NSP-c, were obtained through purifying by AB-8 macroporous resin, dialysis, DEAE-650M anion exchange, and Sephadex G-150 gel permeation chromatography. Among them, NSP-a was a neutral polysaccharide, and acidic polysaccharides for the others, with the purity 91.12 ± 1.15%, 94.02 ± 2.18%, 95.71 ± 2.56%, 94.30 ± 0.87%, respectively.

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