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Abstract (publication only)

Astragalus adscendens extract is a novel adjuvant increasing the immune responses in mice compared to Quil A and Allum

A. Khosravi*, A. Abdolkarimi, S. Alizadeh (Ilam, IR)

Objectives: Astragalus adscendens is a perennial plant of family astragalus that its polysaccharide extract is usually used as a popular sweetie in Iran for years called GAS ANGABIN. Several studies demonstrated that Astragalus membranous extracts could be safely used as an adjuvant with low or non-haemolytic effect. As there is no study assessing such potential ability in A. Adscendens the current study was designed to evaluate the hemolytic and adjuvant activities of this plant in mice. **Materials and methods:** 4 groups of ICR mice were subcutaneously immunized with OVA 100 µg alone or OVA and Astragalus extract (ASE as a new adjuvant), QuilA and Allum on Day 1 and 15. Two weeks later (Day 28), concanavalin A (Con A)-, lipopolysaccharide (LPS)- and OVA-stimulated splenocyte proliferation and OVA-specific antibodies in serum were measured. Haemolytic activities of ASE was evaluated using 0.5% rabbit red blood together with its adjuvant potentials on the cellular and humoral immune responses at both 100 and 200 µg/ml doses. **Results:** ASE showed no haemolytic effect, at the concentration of 100 and 200 µg/ml. ASE significantly enhanced the Con A-, LPS-, and OVA-induced splenocyte proliferation in the OVA-immunized mice at both doses of 100 and 200 µg. The IgG total and IgG sub-class responses in the serum of mice were significantly higher using ASE as adjuvant compared with QuilA, Allum and control group. **Conclusion:** This study demonstrated that ASE has a considerable adjuvant activity with non-haemolytic effect at both 100 and 200 µg/ml doses superior to Allum and QuilA.