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Immunomodulatory effects of *Hedysarum polybotrys* extract in mice macrophages, splenocytes and leucopenia

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Astragali Radix (Huang-Qi) is a popular traditional Chinese medicine (TCM) commonly used as a constituent in tonic herbal preparations. According to the record of Ben-Cao-Gang-Mu (Compendium of Materia Medica), Astragali Radix is sweet, with warming properties and manifests its therapeutic effects in the spleen and lung meridians. *Hedysarum polybotrys* Handel-Mazzetti is one species used of Astragali Radix. In this study, the immunomodulatory properties of *H. polybotrys* were explored by LPS-activated and SNP-treated RAW 264.7 cells and splenocytes and, daunoblastina-induced leucopenia BALB/c mice. Formononetin was used as the bioactive marker to monitor the quality of the *H. polybotrys* extracts. *H. polybotrys* was extracted with hot-water and methanol, and MeOH extract partitioned with H₂O (M-H) and ethyl acetate (M-EA) to yield four different fractions. M-EA had the highest formononetin and total proanthocyanidin content and showed stronger inhibitory effects on the production and expression of NO, PGE₂, iNOS and COX-2 in LPS-activated RAW 264.7 cells and splenocytes than the other fractions. In addition, M-EA significantly stimulated the proliferation of LPS-activated RAW 264.7 cells and splenocytes, enhanced NO radicals scavenging and attenuated NO-induced cytotoxicity. Furthermore, M-EA also significantly increased the rate of recovery of white blood cells level in daunoblastina-induced leucopenia mice. These evidences suggest that this traditional Qi-tonifying herb has potential effects in clinical conditions when immune-enhancing and anti-inflammatory effect is desired.

Biography

Guan-Cheng Huang has completed his MD from Taipei Medical University with the residentship in Koo Foundation Sun Yat-San Cancer center and postdoctoral studies from Policlinico San Matteo Ospitale in Pavia University, Italy. He is the chief of Hemato-Oncology department in Yuan's General Hospital and assistant Professor in Fooying University. He has published more than 30 papers in SCI journal.

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