

The panaxadiol saponins components promoting the megakaryocytic maturation and the regulating immune function in mouse model with immune thrombocytopenia

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We have identified the biological active components, panaxadiol saponins components (PDS-C) isolated from Chinese ginseng extract with 92.44% in purity. In this article, the immune thrombocytopenia (ITP) BALB/c mouse was established. We used infusion of antiplatelet antibodies every other day, which was derived from serum of guinea pig immunized by the platelets of BALB/c mice. The platelet counts of ITP mice were steadily reduced and maintained at 20% to 30% of the normal level. The ITP mouse models were treated by PDS-C at lower, medium and higher dosages for 10 days. We observed that the peripheral blood platelet counts of ITP mice treated with PDS-C increased significantly in a dose-dependent manner, compared with untreated controls. PDS-C enhanced mature of megakaryocytes and increased their numbers, with a concomitant decrease numbers of immature megakaryocytes in the bone marrow of PDS-C treated animals. In vitro assays, PDS-C promoted proliferation of megakaryocyte progenitor cells and increased colony forming unit- megakaryocyte (CFU-MK) colonies by 20.6% to 46.4% compared with untreated controls. Furthermore, the macrophage phagocytosis of exogenous red blood cells in the intra-abdominal cavity was inhibited by PDS-C treatment. This indicates that PDS-C could prevent platelet from attacking by exogenous antibody against platelet. In conclusion, our findings suggest that PDS-C may possess dual activities, namely that of promoting proliferation and differentiation of megakaryocyte progenitor cells, and that of regulating the immune function in the treatment of ITP mice.

Biography

Xiao-jie Lin has completed her master degree at the age of 27 years from Zhejiang Medical University. Currently she is an associate professor in Hematology, in the Hematology Research Institution, in The First Affiliated Hospital of Zhejiang Chinese Medical University in China. She has published more than 30 papers in journals in China and overseas. She is a committee member and general secretary of Hematology Committee of the Zhejiang Provincial Association of Integrative Medicine.

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