

Arabinogalactan Isolated from Coffee Beans Indicates Immunomodulating Properties

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SUMMARY

Coffee bean polysaccharides, consisting mostly of arabinogalactan, galactomannan, and cellulose, make up about 50 % of the dry weight of the bean. The bioactive properties of arabinogalactan from several plant sources have been reported in relation to their prebiotic, cholesterol-lowering and immunomodulating properties. To investigate whether arabinogalactan from coffee beans also has bioactive properties, we examined the proliferation or production of cytokines in murine, splenocytes and bone marrow-derived dendritic cells (BMDCs) in response to arabinogalactan from coffee beans, and immunomodulating activity in mice. In the presence of arabinogalactan from coffee beans the proliferation of macrophage and splenocyte was observed. Furthermore, murine BMDC and splenocytes treated with arabinogalactan from coffee beans exhibited the production of T helper-1-type cytokines, IL-12p40 and IFN-gamma. In the *in vivo* study, the production of IL-12p40 in mice that ingested arabinogalactan from coffee beans (2.5 mg/day) increased as compared to control mice. These results show that arabinogalactan from coffee beans can stimulate immunocytes and enhance Th1 immune responses.