USANA Technical Bulletin

Milk Thistle

Technical Background

- Milk thistle (Silybum marianum), or silymarin, is an herb that has long been used to support liver health.
- *In vitro*, human, and animal studies have found antioxidant effects of milk thistle extracts.[1]
- Silymarin promotes ribosomal RNA synthesis, which stimulates liver regeneration. It has also been found to inhibit the deposition of fibers that lead to cirrhosis.[2]
- One study found that high doses of milk thistle components significantly reduced biliary cholesterol and phospholipid concentrations in animals and humans.[3]
- Silibinin, one of the main constituents of silymarin, has been found to up-regulate phase II enzyme activity in the liver, helping the liver detoxify.[4]
- Some studies have found that milk thistle extract may suppress prostate cancer growth[5] and be chemopreventive in the skin and other tissues.[4]
- A recent study found that milk thistle also stimulates the immune system.[6]

Sources and Recommended Intake

- There is no Recommended Dietary Allowance (RDA) for milk thistle.
- 420 mg/day of silymarin has been found therapeutic in improving liver function in individuals with various types of liver damage.[1]

Abstract

Wilasrusmee C, Kittur S, Shah G, Siddiqui J, Bruch D, Wilasrusmee S, Kittur DS. Immunostimulatory effect of Silybum Marianum (milk thistle) extract. Med Sci Monit. 2002 Nov;8(11):BR439-43. BACKGROUND: Herbal products are increasingly used for their effects on the immune system. Milk Thistle, a commonly used herbal product is known to inhibit growth of certain tumors, although the mechanism of this effect remains unknown. Previously we have shown that Milk Thistle extracts stimulate neurons in culture. Since other drugs that affect the neuronal; system also affect the immune system, we investigated the effects of Milk Thistle on the immune system. MATERIAL/METHODS: Standardized Milk Thistle extract was studied in murine lymphocyte proliferation tests using Concanavalin A (ConA) as mitogen for non-specific stimulation and mixed lymphocyte culture (MLC) as allospecific stimulation. Th1 and Th2 cytokine levels in MLC were assayed by two antibody capture ELISA technique. All tests were performed in triplicate and repeated twice. RESULTS: We found that Milk Thistle is immunostimulatory in vitro. It increased lymphocyte proliferation in both mitogen and MLC assays. These effects of Milk Thistle were associated with an increase in interferon gamma, interleukin (IL)-4 and IL-10 cytokines in the MLC (table). This immunostimulatory effect increased in response to increasing doses of Milk Thistle. CONCLUSIONS: Our study has uncovered a novel effect of milk thistle on the immune system. This immunostimulatory effect may be of benefit in increasing the immunity to infectious diseases.

References

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