

Differential effect of *Coriolus versicolor* (Yunzhi) extract on cytokine production by murine lymphocytes in vitro.

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Being one of the commonly used Chinese medicinal herbs, *Coriolus versicolor* (CV), also named as Yunzhi, was known to possess both anti-tumor and immunopotentiating activities. The present study aimed to investigate the in vitro immunomodulatory effect of a standardized ethanol-water extract prepared from CV on the proliferation of murine splenic lymphocytes using the MTT assay, and the production of six T helper (Th)-related cytokines using the enzyme-linked immunosorbent assay (ELISA) technique. The results showed that the CV extract significantly augmented the proliferation of murine splenic lymphocytes in a time- and dose-dependent manner, maximally by 2.4-fold. Moreover, the production of two Th1-related cytokines, including interleukin (IL)-2 and IL-12, in culture supernatants from the CV extract-activated lymphocytes was prominently upregulated at 48 and 72 h. Positive correlations were found between the levels of these two cytokines and the MTT-based proliferative response. In contrast, the production of two other Th1-related cytokines, including interferon (IFN)-gamma and IL-18, was significantly augmented only at 24 h, but not at 48 and 72 h. On the other hand, the levels of two Th2-related cytokines such as IL-4 and IL-6 were undetectable in the culture supernatants of lymphocytes treated with the CV extract. The CV extract was suggested to be a lymphocyte mitogen by differentially enhancing the production of Th1-related cytokines.