

## Effects of Potato (*Solanum tuberosum*) Extract on the Oxidant Status of DBA/1J Mice with Type II Collagen-induced Arthritis

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In this study, we examined the effect of potato ethanol extract on the oxidant/antioxidant status of DBA/1J mice with collagen type II induced arthritis (CIA). The effect of potato extract on the activity of antioxidant enzymes (superoxide dismutase, glutathione peroxidase, and glutathione reductase) of the spleen was investigated. As an indication of the occurrence of lipid peroxidation, the content of malondialdehyde was also determined. The levels of lipids in serum were compared. Arthritis in DBA/1J mice was induced by subcutaneous immunization with bovine type II collagen on day 0 and day 21. Potato extract (100 and 200 mg/kg) were orally administered to DBA/1J mice once daily for 49 days after initial immunization with type II collagen. Levels of LDL-cholesterol and malondialdehyde in sera were reduced by potato extract administration. CIA in DBA/1J mouse presented significantly reduced activities of superoxide dismutase (SOD), glutathione peroxidase (GP), and glutathione reductase (GR) in spleen when compared with healthy mouse. The activities of GP and GR were increased in the spleen of potato extract-treated CIA mouse. These data led us to postulate that the mechanism for the preventive effect of potato extract as anti-arthritic agents might include modification of antioxidant enzyme activities and lipid peroxidation.

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