

**Pliml W, T von Arnim, C Hammer. Effects of therapeutic ribose levels on human lymphocyte proliferation in vitro. *Clin Investig* 1993;71(10):770-773.**

Ribose has been used successfully in the treatment of ischemic heart disease and muscular enzyme deficiencies, and its administration also facilitates the diagnosis of coronary artery disease by influencing thallium-201 scintigraphy. Concerns about the safety of ribose therapy have been triggered by reports about inhibitory effects of ribose on cell proliferation in vitro. This study examines possible side effects of ribose on human lymphocytes. Unstimulated and mitogen-stimulated human lymphocytes were incubated with ribose concentrations associated with high-dose oral administration, i.e., 3.5 mM, and with two- (7 mM) and tenfold (35 mM) higher concentrations. Cell cultures with matching glucose concentrations served as controls. Incorporation of [3H]thymidine into cells was used to measure cell proliferation. No significant inhibition of human lymphocyte proliferation in vitro was observed in mitogen-stimulated cells. Unstimulated cultures showed significant inhibition only at 35 mM ribose. It is concluded that ribose plasma levels associated with high-dose oral administration do not inhibit human lymphocyte proliferation in vitro. No evidence was found that short-term ribose therapy is harmful to human lymphocytes.

