

**Grown By Nature's B.I.O.
Long term human study with Glyco-Phos™
J.A. Vinson 1984**

Department of Chemistry, University of Scranton, Pennsylvania 18510–4626

Protocol

Six subjects, three males and three females, between the ages of 18 and 22 volunteered for this study. A fasting finger-prick blood sample was taken from each subject and converted to serum. Serum cholesterol, triglycerides, high-density cholesterol, low density cholesterol and glycosylated protein were analysed using commercial kits. The weight and resting blood pressure (systolic/diastolic) in the seated position were also measured.

Each subject took 30ml of Glyco-Phos daily mixed with water that provided 7 grams of sugar, 1 gram of phosphorus, 2 grams of proteins and 0.5 grams of bioflavonoids. The analyses were repeated after 2, 4 and 6 weeks of supplementation.

Results and Discussion

There were no changes in weight and blood pressure during the study. The results of the other analyses are shown below with the following abbreviations:

C = cholesterol

HDL = high-density lipoprotein cholesterol

LDL = low-density lipoprotein cholesterol

TriG = triglycerides

GP = glycosylated protein

↓ = decreased

↑ = increased

Assay	Before suppl.	Two weeks	Four weeks	Six weeks	Change after 6 weeks
Total C (mg/dl) ↓	128.8± 13.6	118.8± 7.8	127.8± 11.0	119.2± 5.3	↓ 7.5% (5/6 subjects)
HDL (mg/dl)	43.7±5.0	42.5±3.6	48.2±8.6	45.0±5.4	↑ 3.0% 4/6 subjects ↑
LDL (mg/dl)	81.7±16.3	72.5±8.5	77.3±11.1	73.2±6.7	↓ 10.4% 3/6 subjects ↓
<u>LDL</u> <u>HDL</u>	1.93±0.47	1.72±0.25	1.64±0.42	1.51±0.34	↓21.8% 5/6 subjects ↓
TriG (mg/dl)	98.5±25.2	73.5±36.3	86.0±16.0	80.0±22.2	↓ 18.8% 6/6 subjects ↓
GP	10.0±0.4	12.1±1.0	11.4±0.6	11.8±1.1	↑ 18.0%

As can be seen from the data, the Glyco-Phos supplementation lowered total cholesterol almost 8% and triglycerides (fats) 19%.

Glyco-Phos also had the effect of lowering low-density lipoprotein cholesterol by 10%. This is the lipoprotein fraction that carries cholesterol for deposition in the arteries leading to atherosclerosis. High-density lipoprotein cholesterol, the beneficial lipoprotein fraction responsible for carrying cholesterol for excretion out of the body, was increased slightly (3%).

The ratio of low-density lipoprotein cholesterol to high-density lipoprotein cholesterol was decreased 22%, indicating a significant decrease in risk of heart disease. This ratio is the best prediction of heart disease of all the lipid numbers. The % glycosylated protein increased 18%, indicating that the average blood glucose was higher following supplementation.

This is to be expected since Glyco-Phos was shown in the previous short-term study to elevate blood glucose.

In summary, Glyco-Phos has shown to be beneficial with respect to serum lipids and risk of heart disease following long-term supplementation.