



Anti-Diabetic Effect of Alkaline-Reduced Water on OLETF Rats

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Alkaline-reduced water (ARW) is known to exert several anti-cancer effects, as well as to scavenge reactive oxygen species (ROS) and reduce blood-glucose levels. This study was performed in order to determine the effects of ARW on the control of spontaneous diabetes in Otsuka Long-Evans Tokushima Fatty (OLETF) rats.

We assigned 16 male OLETF rats (4 wk) to two groups: an experimental group, which was given ARW, and a control group, which received laboratory tap water. From week 6 to 32, the body weight, lipid composition, and glucose levels in the blood of the rats were measured. The glucose levels of both groups tended to increase. However, the ARW group's glucose levels were significantly lower than those of the control group after 12 weeks (p below 0.05).

The total cholesterol and triglyceride levels in the ARW group were found to be significantly lower than those of the control group during the experimental period. These results suggest that ARW spurred the growth of OLETF rats during the growth stage, and that long-term ingestion of ARW resulted in a reduction in the levels of glucose, triglycerides, and total cholesterol in the blood.

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