

海洋深層水對糖尿病大鼠,透過保護粒線體可以降低血糖,回復心臟功能和提高生存率

**Deep-sea water lowers blood sugar, restores myocardial function via mitochondrial protection, and promotes the viability of diabetic rats**

廖宏恩, 黃志揚, 郭薇雯

**Abstract**

In this study, a failed rat model was set up by streptozocin (65mg/kg) injection which destroyed the beta cells to secret insulin failed and cause high blood glucose. Furthermore, experiments were designed to explore the mechanism of DSW further, prevention of diabetes complicated by cardiac hypertrophy and apoptosis molecules message. Different doses gavages treatment of DSW administration, 1X (37 mg / kg / day), 2X (74 mg / kg / day), 3X (111 mg / kg / day), were applied for four weeks to diabetic rats. Experimental results show that the feeding of deep-sea water can be an effective inhibition of cardiomyocyte apoptosis and fibrosis-related protein expression, and to promote the survival-related protein expression and protect myocardial cells from the pathway towards apoptosis. The experimental data also showed that DSW can restore the myocardial function in diabetic rats, and improve survival the protection of mitochondrial function protein and mitochondrial integrity. Above this experimental evidences suggested, the appropriate drinking DSW can protect myocardial mitochondrial function and treat the heart disease caused by diabetes.

Keywords: deep-sea water, magnesium, diabetes, heart disease, apoptosis, grain line body