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The Effect of Deep Ground Water on Antioxidant Activity and Diabetes

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Korean deep mineral water (KDMW) has a similar mineral composition with deep seawater. KDMW has demonstrated its usefulness and attracted attention in the medical fields. KDMW intake improves diabetes, antioxidant activity, and the growth of fermentation related strain but it does not lead to the hypertension because it contains high contents of salts. The antioxidant activity was increased up to 23% by the addition of 40% KDMW. Lipopolysaccharides (LPS) induced production of nitric oxide (NO) was reduced up to 55% by the addition of KDMW in RAW264.7 macrophage. These results indicate that the minerals in KDMW play an important role for activation of immune system. The levels of serum glucose were decrease significantly in the KDMW groups compared with the control groups. This result suggest that the KDMW could recover the damages induced by streptozotocin in the hyperglycemic mice.

In addition, it is considered that the study on the effects of abundant minerals of deep mineral water in the fermentation will by continued.