

P 3 . Anti-adipogenic effect of Balanced Deep Sea Water in *in vitro*

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We investigated the effect of balanced deep sea water on adipogenesis in *in vitro*. We performed Oil Red O staining to quantify lipid accumulation using differentiated 3T3-L1 adipocytes under various hardnesses. Furthermore, to know regulatory mechanisms by balanced deep sea water, we investigated expression levels of PPAR γ and C/EBP α , HSL and ATGL, and several anti-obesity adipokines using qRT-PCR and Western blotting. Balanced deep sea water inhibited adipogenesis and lipid accumulation in a dose-dependent manner. Balanced deep sea water also reduced mRNA expression levels of both key transcription factors and lipase genes. Moreover, balanced deep sea water increased expression of anti-obesity adipokines. Taken together, our results suggest that

balanced deep sea water has anti-obesity potential by inhibition of adipogenesis and lipid metabolism and by stimulation of anti-obesity adipokines expression.

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