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Evaluation on the Effects of Soaps with Various Bases on Preventing and Ameliorating Exercise-Induced Muscle Damage and Fatigue

Final Report

Graduate Institute of Athletics and Coaching Science,
National Taiwan Sport University,
Taiwan, ROC



December 2016

I. Company Name of Applicant:

Life 720 Company Limited, Hong Kong

II. Implementer:

National Taiwan Sport University

III. Name of Testing Entrustment:

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and ameliorating exercise-induced muscle damage and fatigue

IV. Study period:

July 2016 to December 2016

P.I.

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Abstract

The purpose of this study was to evaluate the effect of “SDTL Energy Cube” (manufactured by Life 720 Co. Ltd., Hong Kong) on preventing and ameliorating exercise-induced muscle damage (EIMD) and fatigue. This study included two experimental trials, 1. “effects of beforehand using SDTL Energy Cube on EIMD and fatigue” and 2. “effects of afterward using SDTL Energy Cube on EIMD and fatigue”. EIMD was induced by a single bout of 60 minutes downhill running (DHR) on a 5% grade with the velocity at 75% $\dot{V}O_{2\max}$ of level-grade in both trials. The trials were performed in a double-blind, counterbalanced, crossover manner. Participants took shower for 3 days with SDTL Energy Cube (or placebo soap) before or after the DHR. The benefits of the soap were evaluated by questionnaires, activities of blood creatine kinase (CK), as well as isokinetic strength and endurance. The results showed that when using SDTL Energy Cube for three days before the DHR, the activity of CK at 48-hr after the DHR was no significant difference with immediately after the DHR, and also significantly lower than the value with the placebo soap intervention. Moreover, when using SDTL Energy Cube three days before the DHR, the activities of CK at 48-hr and 72-hr after the DHR were also significantly lower than the values with placebo soap intervention. However, the isokinetic strength and endurance didn't reflect this efficacy. In conclusion, no matter using SDTL Energy Cube before or after exercise, it could mitigate the blood muscle damage biomarker which elevated by eccentric exercise. Accordingly, SDTL Energy Cube could attenuate the response of EIMD.

Keyword: creatine kinase, profile of mood state, isokinetic strength, isokinetic endurance