

Original Paper

Effect of a session resistance exercise on mRNA expression of NT-3 and TrkC proteins in soleus muscle of Wistar rats

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Abstract

Background and Objective: Skeletal muscle expresses several neurotrophin and their receptors which providing the basis for neurotrophin signaling within the muscle compartments. This study was done to evaluate the effect of a session of resistance exercise on mRNA expression of NT-3 and TrkC proteins in soleus muscle of Wistar Rats.

Methods: In this experimental study, 16 male Wistar rats were randomly allocated into exercise and control groups. The resistance training protocol consisted of climbing a 1-meter-long ladder, with a weight attached to a tail sleeve. Expressions of NT-4/5 and P75, quantitatively were measured using RT-PCR.

Results: There was not any significant alteration in NT-3 mRNA in soleus muscle after resistance exercise. However, one session of resistance exercise significantly increased mRNA expression of TrkC (1.7 Folds) in soleus muscle ($P < 0.05$).

Conclusion: Resistance exercise increases TrkC expression in soleuse muscle of wistar rats.

Keywords: Soleus muscle, Resistance exercise, Neurotrophin-3 (NT-4/5), TrkC receptor, Rat

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Received 29 Nov 2014

Revised 3 Jan 2015

Accepted 21 Jan 2015