

Original Paper

Effect of resistance exercise on protein content and mRNA expression of NT 4/5 in rat slow and fast muscles

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Abstract

Background and Objective: Trophic factor family plays a key role for neuromuscular system healthy. This study was carried out to determine the effect of one session of resistance exercise on protein content and mRNA expression of NT4/5 in rat slow and fast muscles.

Methods: In this experimental study, sixteen adult male rats randomly were allocated into resistance exercise (T) and control groups. The resistance training protocol consisted of climbing a 1-meter-long ladder, with a weight attached to a tail sleeve. Quantitative Real time RT-PCR for NT-4/5 expression and ELISA Kit for protein assay were used.

Results: Resistance training significantly decreased mRNA expression and increased protein of NT4/5 in soleus muscle ($P < 0.05$). Significant alteration was not detected in flexor hallucis longus muscle.

Conclusion: One session of resistance training can alter protein and mRNA of NT-4/5 in skeletal muscle and this alteration was dependent on muscle type.

Keywords: Resistance Training, Neurotrophin-4/5, Protein, Muscle

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