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» Journal Abstract

The expression of MMP-2, MMP-9, and SOD on different muscle fibers in trained muscles in young rats.

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Treadmill running provides a model to investigate the mechanism involved in muscle use and over use. Female rats (8 months old) were randomly assigned to 2 groups: Running group I, at a slow speed (18 m/min; ~ 50% VO₂), and Running Group II, at a very Fast speed (32 m/min; ~ 75% VO₂), for 2 weeks. Matrix metalloproteinase (MMP) type 2 and 9, and total activity of superoxide dismutase (SOD) assessed in gastrocnemius, quadriceps and soleus muscles by western blotting and by reverse transcriptase-polymerase chain reaction. The expression of MMP-2 and SOD was shown particular in the fast running group. MMP-9 and SOD were not expressed in the fast and slow running group. Fast twitch muscle fibers (type IIB) were more affected by the fast speed running than slow twitch muscle fibers (Type I).

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