

## عنوان مقاله:

ABCG5 gene responses to treadmill running with or without administration of Pistachio atlantica in female rats

## محل انتشار:

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## خلاصه مقاله:

Objective(s): ABC transporters comprise a large family of transmembrane proteins that use the energy provided by ATP hydrolysis to translocate a variety of substrates across biological membranes. All members of the human ABCG subfamily, except for ABCG2, are cholesterol-transporter. The aim of this study was to determine the liver, the small intestine and kidney ABCG5 relative gene expression in response to treadmill-running training in female rats. Materials and Methods: Twenty Wistar rats (6-8 weeks old and 125-135 g weight) were used. Animals were randomly assigned to saline-control (SC), saline-training (ST), and Baneh-control (BC), and Baneh-training (BT) groups. Training groups did the exercise on a motor-driven treadmill at 25 m/min (0% grade) for 60 min/day for eight weeks (5 days/week). Rats were fed orally, with Baneh extraction and saline for six weeks. The two-way ANOVA was employed for statistical analysis. ABCG5 relative gene expression was detected by Real-time PCR method. Results: The current findings indicate that the Baneh-treated tissues had significantly lower levels of ABCG5 gene expression in the liver, small intestine, and kidneys ( $P < 0.001$ ,  $P < 0.003$ ,  $P < 0.001$ , respectively), when compared with saline-treated tissues. However, a higher level of gene expression was observed in exercise groups. A lower level of HDL-c but not triglyceride (TG) and total cholesterol (TC) levels were found in Baneh-treated animals at rest. Conclusion: Exercise training increases ABCG5 relative gene expression in the liver, small intestine and kidney tissues; therefore exercise training may adjust the reduction of ABCG5 relative gene expression in Baneh-training group.

## کلمات کلیدی:

ABCG5, ABC transporters, Female rats, Pistachia atlantica, Treadmill exercise

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