

عنوان مقاله:

Muscle Recovery Is Highlighted by IR Laser Therapy

محل انتشار:

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خلاصه مقاله:

Abstract Introduction: In sports medicine, laser application has been well-established for the recovery of muscles. The mechanisms by which benefits of this kind of therapy can be studied is molecular research approach. Protein-protein interaction network analysis as one of the important complementary studies of proteomics can accelerate this goal by the identification of novel contributing markers. **Methods:** By the use of Cytoscape V3.7.1 and its applications, a network of differential expressed proteins (DEPs) from IR laser treatment samples were constructed and analyzed. Six hub-bottlenecks were determined, 4 of which were from differentially expressed proteins. **Results:** ClueGO discovered 4 biological processes related to these hub-bottlenecks that their function could alter due to IR laser therapy. **Conclusion:** In fact, by the expression changes of hub-bottlenecks including the up-regulation of HSP α s, one of the prominent biological processes in muscle recovery could be activated. This process is called nitric oxide synthase (NOS) activation that could be proposed as one of the underlying mechanisms of IR laser treatments in muscle recovery. **Keywords:** Infrared (IR) laser Myoblast Proteomics Protein-protein interaction network analysis

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