



Research article

## Exercise as a physiotherapy potentiates thermogenesis and obesity management through elevation of myokine "irisin"

Fathia Abd Elwahid Mannaa<sup>1</sup>, Khaled G. Abdel-Wahhab<sup>1\*</sup>, Ahmed Baha-Eldin Abdallah Elsayed<sup>2</sup>, Maha Abdel-hamid fatehy<sup>2</sup>, Ahmed Mohammed Shaker<sup>1</sup>

<sup>1</sup>Medical Physiology Department, National Research Centre, Dokki, Cairo 12622, Egypt.

<sup>2</sup>Physiology Department, Faculty of Medicine, Zagazig University, Egypt.

**Key words:** Obesity, irisin, thyroid hormones, exercise, rats.

**\*Corresponding Author: Khaled G. Abdel-Wahhab,** Medical Physiology Department, National Research Centre, Dokki, Cairo 12622, Egypt.

### Abstract

The present study was designed to study the possible effect of exercise on serum irisin level in both healthy and obese rats and also, to explore the relations between irisin and some atherogenic risk factors. The obtained data revealed significant increases in serum levels of irisin and FT4 in both healthy and obese groups in response to exercise, while FT3 values showed insignificant change. Also, a significant increase in serum irisin and a significant decrease in FT4 were observed obese group compared to normal group. Exercise significantly improved lipid profile, glucose, insulin level and HOMA-IR that rose in obese group. In conclusion, irisin was found to increase after moderate intensity exercise training; therefore, irisin could be a potential therapeutic target for human metabolic diseases and other disorders that are improved with exercise.