



Exercise Biochemistry Review

Proceedings of IBEC 2018, Beijing, China, October 23-25
PO-027

Effects of exercise-induced miRNAs on mitochondrial autophagy signaling pathway in PI3K/Akt/mTOR

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Objective To explain the regulation of mitochondrial autophagy by exercise-induced miRNAs, it provides a new reference for the prevention and treatment of diseases such as inflammation and tumor.

Methods Through the literature data method, this paper refers to more than 100 articles and writes this review, which provides relevant research directions for relevant researchers.

Results Exercise promotes the up-regulation of miR-30, miR-223 and miR-210 expression through the PI3K /Akt / mTOR signaling pathway to inhibit its related target proteins, and promote mitochondrial autophagy to affect inflammation, tumor and other diseases.

Conclusions In recent years, people's concept of exercise has undergone a slow and fundamental change. In addition to medical factors, the role of exercise factors in the prevention or treatment of various diseases such as inflammation and cancer has gradually strengthened. Mitochondrial autophagy has a significant effect on tumor cells. The successful discovery of PI3K/Akt/mTOR signaling pathway provides more support for the involvement of tumor-like diseases. miRNAs may regulate PI3K/Akt/mTOR signaling in mitochondrial autophagy. Pathways significantly affect tumor-like diseases. Exercise is widely recommended as a means of preventing and treating various diseases such as inflammation and tumor. The induction of normoxic exercise and hypoxic exercise has a significant effect on the regulation of PI3K/Akt/mTOR signaling pathway in mitochondrial autophagy by miRNAs. In the future, studies on the regulation of mitochondrial autophagy by miRNAs can focus on the relationship with exercise. At present, the research on mitochondrial autophagy regulated by exercise-induced miRNAs is still insufficient. As a new discovery, it will receive more and more attention. miRNAs regulate the regulation of PI3K/Akt/mTOR signaling pathway in mitochondrial autophagy, which provides a new idea for solving the treatment problems of inflammation, tumor and other diseases.