

Cite this as: Ruobing ZHAO, Xuchang ZHOU, Dongxue WANG, Haifeng TANG, Guoxin NI, 2025. Potential role of FNDC5 in exercise-induced improvement of cognitive function. *J Zhejiang Univ-Sci B (Biomed & Biotechnol)*, 26(6):557-572.
<https://doi.org/10.1631/jzus.B2400016>

Potential role of FNDC5 in exercise-induced improvement of cognitive function

Key words: Exercise; Fibronectin type III domain-containing protein 5 (FNDC5); Irisin; Cognitive function; Hippocampus

Research Summary

This review mainly focuses on the role of exercise-induced FNDC5 in cognitive function impairment caused by various factors, and explored its underlying mechanisms in the following aspects:

- Inhibition of neuroinflammation**
- Induction of hippocampal neurogenesis**
- Improvement of hippocampal synaptic plasticity**

Innovation points

- Introduction to the role of exercise-induced FNDC5 in different tissues in recent years.

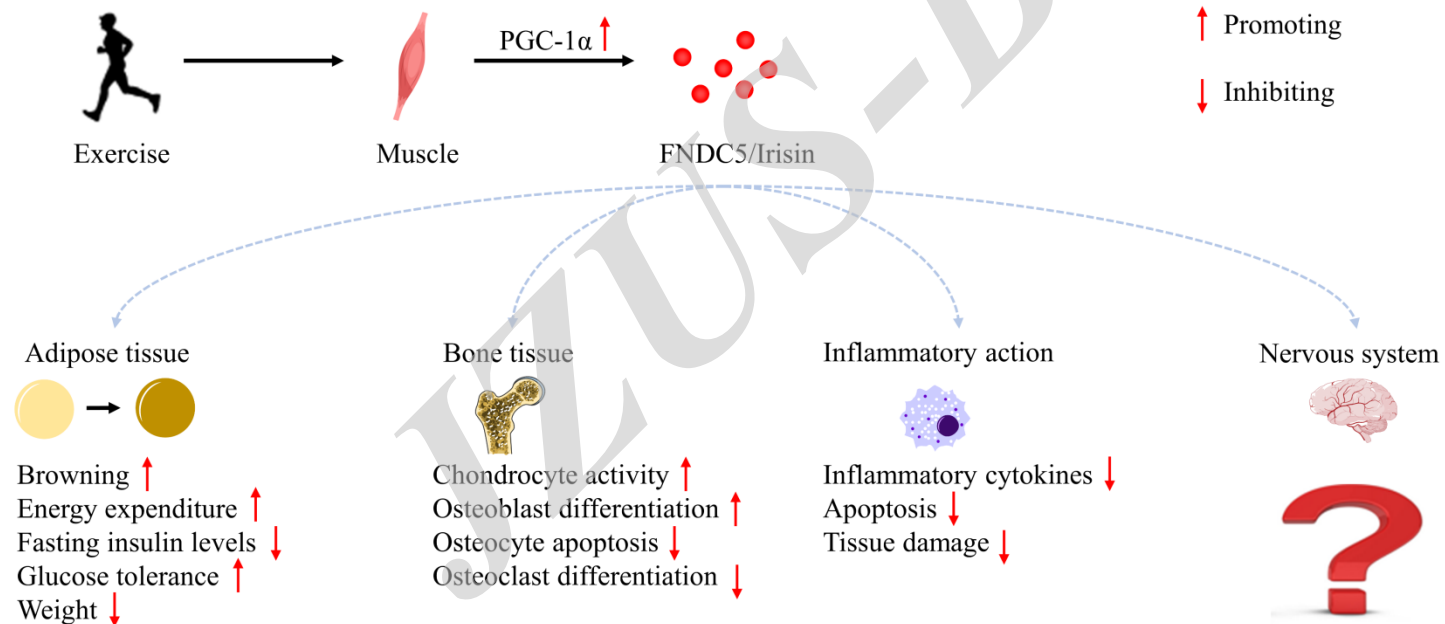


Fig. 1

Innovation points

- **Summary of the beneficial effects of exercise-induced FNDC5 on cognitive impairments caused by various diseases.**

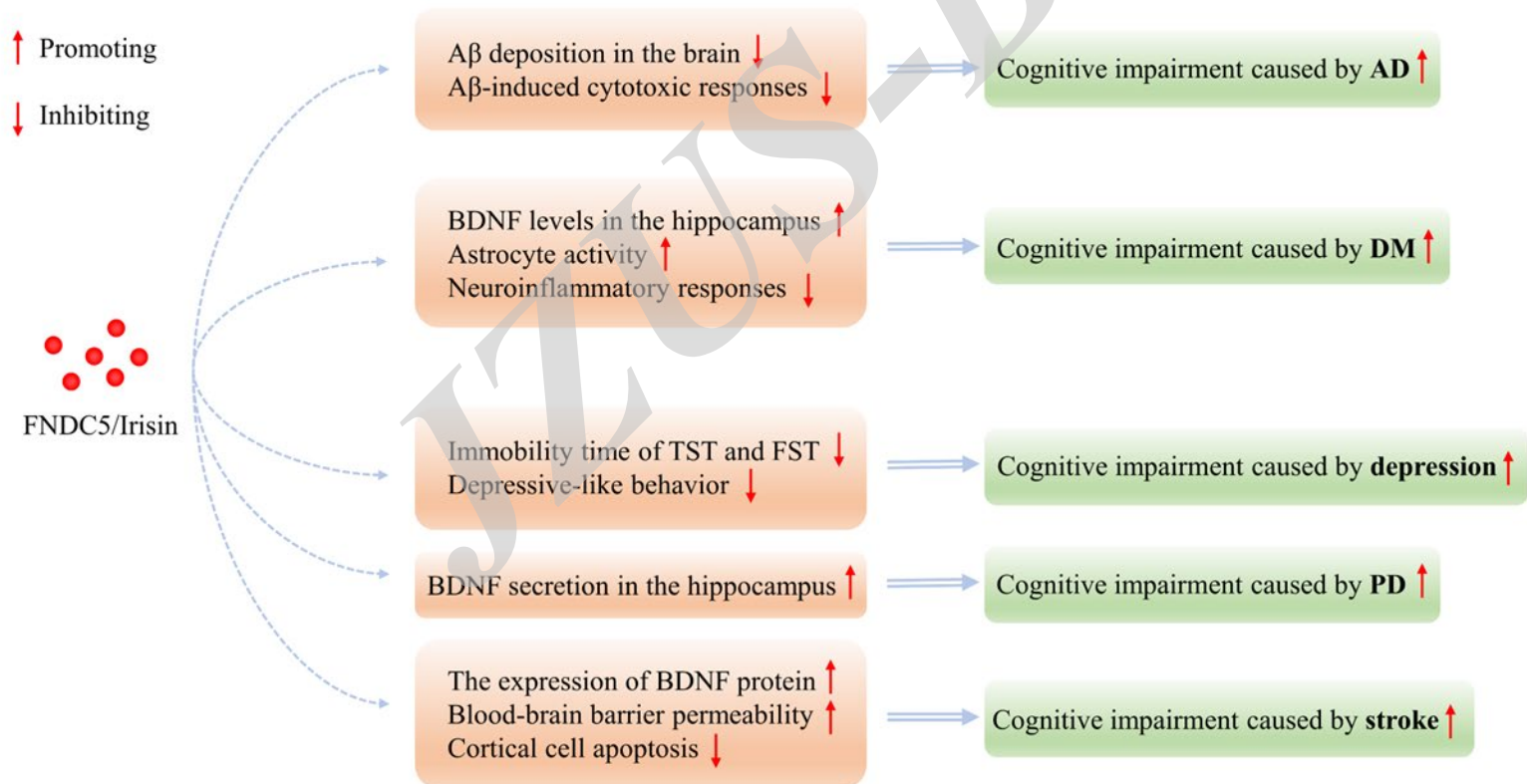


Fig. 2

Innovation points

- **Emphasis** on the mechanism of exercise modulation of FNDC5 for improving cognitive function.

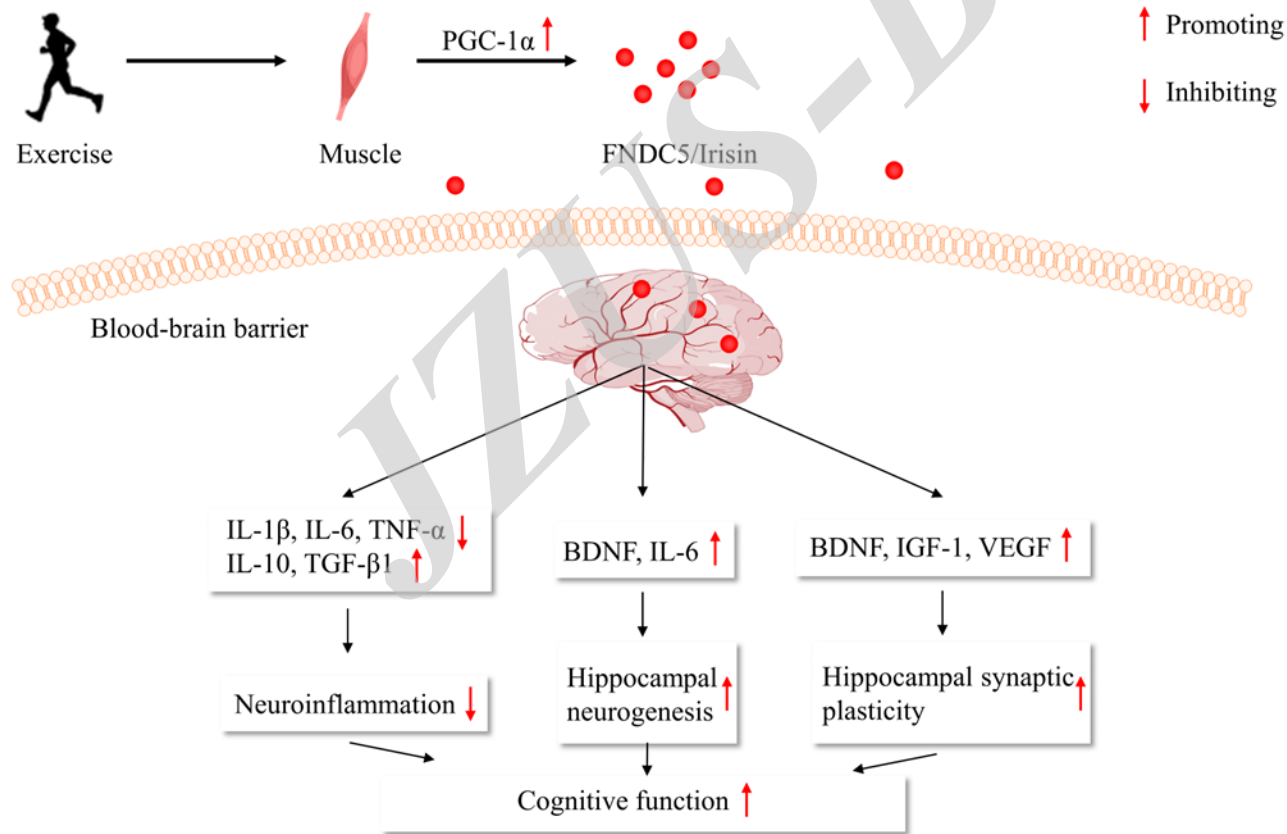


Fig. 3