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The cardiovascular protection of irisin and its research progress in sport field

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Objective The irisin, recently identified novel molecule, exercise induced myokine has been shown to be secreted from fibronectin type III domain containing 5 (FNDC5) of skeletal muscle by an unknown protease. It can drive brown-fat-like development of white fat, increase thermogenesis and lose weight. Apart from this, its expression and role in various other conditions such as inflammation, hippocampal neurogenesis, aging and other metabolic conditions have been reported. Moreover, it has been reported that irisin play an important role in the regulation of various cardiovascular disease, such as endothelial dysfunction, hypertension and atherosclerosis. The present review discussed the research progress of irisin in the field of sports, and the protective effects for cardiovascular disease. However, due to conflicting results, several issues have been raised regarding its expression, cleavage, circulating levels, detection, the form of exercise, etc. And it also discussed the current challenges and future perspectives.

Methods Complete literature survey was performed using PubMed and WOS database search to gather available information regarding FNDC5/irisin.

Results The present review discussed on the discovery of irisin, its possible role in the cardiovascular protection and its research progress in sport field. It provide a research direction and new perspective of the possible target for the prevention and treatment of related disease.

Conclusions Irisin has a promising effect in predicting and diagnosing cardiovascular diseases, and the exercise level could be a influence factor. More research will be needed in the future.