FNDC5/Irisin: Physiology and Article MOLECULES Pathophysiology	
Authors	**Waseem R, Shamsi A, Mohammad T, Hassan MI, Kazim SN, Chaudhary AA, Rudayni HA, Al-Zharani M, Ahmad F, Islam A.**
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Abstract: A sedentary lifestyle or lack of physical activity increases the risk of different diseases, including obesity, diabetes, heart diseases, certain types of cancers, and some neurological diseases. Physical exercise helps improve quality of life and reduces the risk of many diseases. Irisin, a hormone induced by exercise, is a fragmented product of FNDC5 (a cell membrane protein) and acts as a linkage between muscles and other tissues. Over the past decade, it has become clear that irisin is a molecular mimic of exercise and shows various beneficial effects, such as browning of adipocytes, modulation of metabolic processes, regulation of bone metabolism, and functioning of the nervous system. Irisin has a role in carcinogenesis; numerous studies have shown its impact on migration, invasion, and proliferation of cancer cells. The receptor of irisin is not completely known; however, in some tissues it probably acts via a specific class of integrin receptors. Here, we review research from the past decade that has identified irisin as a potential therapeutic agent in the prevention or treatment of various metabolic-related and other diseases. This article delineates structural and biochemical aspects of irisin and provides an insight into the role of irisin in different pathological conditions.