Current Ideas in diabetes after 100 years of insulin discovery: Irisin as a promising target molecule in diabetes metabolism

Manjula Mathur

Molecular Biology Division, Bhabha Atomic Research Center, Mumbai, India

Abstract:

Insulin discovery formed the base of classical thinking of diabetes treatment mechanism. The classical model divides diabetes into two types IDDM (Insulin Dependent Diabetes Mellitus) and NIDDM (Non-Insulin Dependent Diabetes Mellitus). As a result, clinical practices in diabetes became insulin centric and focused on quantitatively controlling the blood glucose levels by medications. However, research advances in last few decades in fields like molecular biology, genomics, proteomics, immunology, endocrinology and systems biology generated new knowledge in Life Sciences. The new advances in systems biology and pathways analysis are indicating the presence of other factors which could be new targets for diabetes treatment. These players not only contribute to the treatment of diabetes but also makes way for its reversibility through neuro-endocrine pathways. Computational Biology helps us to carry out the in-silico studies of these factors which further helps in the drug discovery process. One of the key molecules in this pathway is myokine called irisin. Through computation we have made an attempt of basic scientific study of the role of irisin in diabetes.

Biography:

Manjula Mathur is completed her PhD from Homo Bhabha National Institute, Mumbai. She was a Scientific Officer in the Molecular Biology Division of BARC, Mumbai. She is 63 years old and published more than 15 papers in reputed journals and worked in different fields.

Recent Publications:

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2. A.K. Biswal, N.K. Ramaswamy, K.K. Usuf, Manjula Mathur and A.N. Misra. Thylakoid Membrane Protein Kinase Activity in NaCl Salt Stressed Mung Bean and Indian Mustard Seedling. In Image Analysis in Materials and Life Sciences Ed. C. Babu Rao, P. Kalyan sundaram, K.K. Ray and Baldev Raj, pp. 228-234 (2001)
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