

Systems Biology: The Case for a Systems Science Approach to Diabetes

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Abstract

The unprecedented accumulation of biological data in recent decades has underscored the need to organize and integrate the massive collection of information. In addition, there is rising agreement among biologists that a complete understanding of a single cell will not lead directly to a complete understanding of a system of cells. The success of a systems science approach in engineering and physics may be of great value in the evolution of biological science. This article reviews some examples that suggest the importance of a systems biology approach and, in addition, advance one specific systems science principle, the conservation of uncertainty, which may give insight into the emergent behavior of numerous biological and physiological phenomena.

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