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Metformin: Mechanism and Application 2023

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Deadline for manuscript submissions:

closed (25 April 2024)

Message from the Guest Editor

Dear Colleagues,

Metformin, a mainstay in type 2 diabetes treatment according to EASD and ADA expert guidelines, represents an impressive example of an effective and safe drug that still inspires further research. Metformin has been proven to prevent the conversion of prediabetes to type 2 diabetes. In addition, evidence has been found that metformin acts against aging, metabolic syndrome, obesity. cardiovascular diseases, cancers, infertility in women with polycystic ovary syndrome (PCOS), and neurodegenerative disorders. New evidence has been accumulated that suggests that metformin exerts beneficial effects on bone and mineral metabolism, gut microbiota, and the immune system. Although metformin has been available on the pharmaceutical market since the 1960s, a great amount of research into its molecular mechanisms of action is ongoing. In an attempt to explain the pleiotropic effects of metformin, a number of biological targets involved in metabolic homeostasis, cell cycle, autophagy, apoptosis, oxidative stress, inflammation, and epigenetic regulation have been discovered.













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