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Review on Recent developments and biological activities of 2, 4-thiazolidinediones

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Abstract: Thiazolidinediones (TZDs) are five-membered heterocyclic having sulfur, nitrogen, and oxygen atoms in their ring structure and exhibiting potent as well as wide range of pharmacological activities. Variety of substituents on the thiazolidine-2,4-dione nucleus or as hybrid molecules when combined with other heterocyclic rings produce wide range of biological activities suchas antihyperglycemics, anticancers, antimicrobials, anti-inflammatory and anti-oxidants. This diversity in the biological response profile has fascinated the attention of many researchers to explore this skeleton to its multiple potential against several activities. In the present review, recent updates on synthesis and pharmacological evaluations of molecules based on 2,4-thiazolidinediones are discussed. With the aim to help medicinal chemists for developing SAR on thiazolidine-2,4-dione derived compounds for each activity, this review further help in the development of novel thiazolidine-2,4-dione hybrid compounds. This review is complementary to earlier reviews and aims to review the work reported on various biological activities of thiazolidinediones from the year 2008 to the end of 2015.
Keywords: Thiazolidine-2,4-diones, Pharmacological activities, Antidiabetic, Anticancer.

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