



## Thiazolidinediones as antidiabetic agents-A Review

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### Abstract:

The thiazolidinediones are the class of oral agents for treatment of type-2 diabetes, improving insulin sensitivity and lowering blood glucose, free fatty acid, and triglyceride levels. The thiazolidinediones are PPAR- $\gamma$  (peroxisome proliferator-activated receptor) Agonists. The PPAR- $\gamma$  receptor is a member of the nuclear hormone receptor family of ligand-activated transcription factors which regulates gene expression of several genes involved in fatty acid and carbohydrate metabolism and adipocyte differentiation. Many clinical agents Troglitazone, Pioglitazone and Rosiglitazone were used for type-2 diabetes, however weight gain, hepatotoxicity, urinary bladder cancer and cardiovascular toxicity in some population of patients was observed due to this they were banned. For thiazolidinedione some things such as longer duration of action, lesser side effects and clinical effectiveness researchers are focusing on modification of side chain at C-5 position of thiazolidinediones, its derivatization and its metabolites. Some thiazolidinedione derivatives such as Lobeglitazone and Mitoglitazone can be used as potent hypoglycemic agents.

**Keywords:** PPAR- $\gamma$  Agonist, Thiazolidinediones, Type-2 diabetes.

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