Editorial

Current Pharmaceutical Interventions and Drug Design in the Management of Diabetes and Diabetic Complications

Diabetes is known as the major worldwide problem currently. Insulin deficiency, insulin resistance, obesity etc. are major pathologies contributing factors. Diabetes causing a high rate of mortality and morbidity worldwide and currently affected more than 1/4 world’s adult population. Diabetes also associated with several diabetic complications which are difficult to treat. Treatment of diabetes includes lifestyle alterations, insulin therapy and oral hypoglycemic agents besides that now needed to develop new medications or formulations to combat the toxicities associated with the existing drugs. In current thematic issue entitled as “Current pharmaceutical interventions and drug design in the management of diabetes and diabetic complications”, we have been enclosed valued articles which discuss the inventions and exploration carried out on the management of diabetes and its complications.

Six exhaustive reviews were included from the expert in the field of drug design, formulations and pharmacological interventions covering the recent updates on the drug development, formulation and pharmacological interventions in the treatment of diabetes.

Dua K. and colleagues [1] have been focused their discussion on alpha-glucosidase and its inhibitor in the management of diabetes. They described the role of this pancreatic enzyme which involves in the anabolism of carbohydrate and converting into glucose along with its inhibitors interestingly helps to prevent postprandial hyperglycemia, particularly in type 2 diabetes.

Sivakumar & Prabhakar [2] have been describing the protein tyrosine phosphatase-1B (PTP1B) and its inhibitors which govern the insulin signaling pathways. PTP1B supposed to works by dephosphorylating the tyrosine of insulin receptor and suppress the insulin signaling cascade and currently emerging therapeutic strategy for the diabetes management.

Peroxisome proliferator-activated receptors (PPARs) involved in lipid and glucose metabolism and thus its agonists have a significant signaling pathways. PTP1B supposed to works by dephosphorylating the tyrosine of insulin receptor and suppress the insulin signaling cascade and currently emerging therapeutic strategy for the diabetes management.

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REFERENCES


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