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Synthesis of 2,6-dicarbethoxy-3,5-diaryltetrahydro-1,4-thiazine-1,1-dioxidesenhances glucose uptake activity by *in vitro* method

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Abstract: Diabetes is a chronic metabolic disorder of carbohydrate, fat and protein metabolism characterized by increased fasting and post-prandial blood sugar levels. Increasing epidemic of type 2 diabetes is anticipated to rise to two-fold from the current estimate of 150 million by 2025. Heterocyclic compounds containing nitrogen and sulphur have potential pharmacological properties. Herein we have reported the synthesis and anti-diabetic activity 2,6-dicarbethoxy-3,5-diaryltetrahydro-1,4-thiazine-1,1-dioxides. All synthesized compounds were evaluated for their anti-diabetic activity. Among all the compounds the 2,6-dicarbethoxy-3,5-diaryltetrahydro-1,4-thiazine-1,1-dioxides significantly enhanced glucose uptake activity when compared to the standard anti-diabetic agent and also found to be minimal side effect by *in vitro* assay.

Keywords : Glucose uptake activity, Cytotoxicty, Thiazine, heterocyclic compounds.

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