

## Condensed Benzo, Pyrido, Pyrimidino-Imidazole Derivatives as Antidiabetic Agents

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**Abstract :** Benzimidazole moiety is an important pharmacophore and privileged structure for the medicinal chemists, since it exhibits various important biological activities. Some clinically used drugs have benzimidazole moiety, such as omeprazole, astemizole, albendazole and domperidone. 2-(4-tert-Butylphenyl)benzimidazole, is a PGC-1 $\alpha$  transcriptional regulator shown to have beneficial effects in diabetic mice. We planned to modify the structure of this compound for developing new antidiabetic drug candidates. Hence, a series of guanidino or amidino, benzo/pyrido/pyrimidino-imidazole derivatives were freshly prepared. Mass, 1H-NMR, 13C-NMR, 2D-NMR spectroscopy techniques were used for the new derivatives to clarify their structures and their purity was controlled through the elemental analysis. Antidiabetic activity studies of the synthesized compounds are under the investigation.

**Keywords :** antidiabetic agents, benzimidazole, imidazopyridine, imidazopyrimidine

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