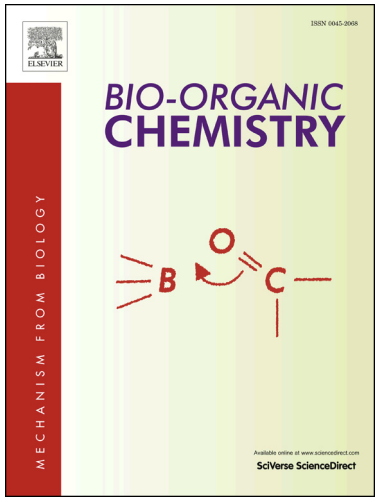

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Nik Khairunissa Nik Abdullah Zawawi, Muhammad Taha, Norizan Ahmat, Nor Hadiani Ismail, Abdul Wadood, Fazal Rahim

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Synthesis, Molecular Docking Studies of Hybrid Benzimidazole As *α*-Glucosidase Inhibitor

Nik Khairunissa Nik Abdullah Zawawi[a,b], Muhammad Taha[*a,b], Norizan Ahmat*[a,b], Nor Hadiani Ismail[a,b], Abdul Wadood[c], Fazal Rahim[d]

[a]Atta-ur-Rahman Institute for Natural Product Discovery, Universiti Teknologi MARA (UiTM), Puncak Alam Campus, 42300 Bandar Puncak Alam, Selangor D. E. Malaysia.

[b]Faculty of Applied Science, UiTM Shah Alam, 40450 Shah Alam, Selangor D.E. Malaysia.

[c]Department of Biochemistry, Abdul Wali Khan University, Mardan 23200, Pakistan

[d]Department of Chemistry, Hazara University, Mansehra, KPK, Pakistan

Abstract

Thiourea derivatives having benzimidazole **1-17** have been synthesized, characterized by ^{1}H NMR, ^{13}C NMR and EI-MS and evaluated for α-glucosidase inhibition. Identification of potential α-glucosidase inhibitors were done by *in vitro* screening of **17** thiourea bearing benzimidazole derivatives using Baker's yeast α-glucosidase enzyme. Compounds **1-17** exhibited a varying degree of α-glucosidase inhibitory activity with IC_{50} values between 35.83±0.66 - 297.99±1.20 μM which are more better than the standard acarbose (IC_{50} = 774.5±1.94 μM). Compound **10** and **14** showed significant inhibitory effects with IC_{50} value 50.57±0.81 and 35.83±0.66 μM, respectively better than the rest of the series. Structure activity relationships were established. Molecular docking studies were performed to understand the binding interaction of the compounds.

Keywords: Thiourea, Hybrid, Benzimidazole, Synthesis, *α*-Glucosidase Inhibition, Molecular docking

* Correspondence and reprints
E-mail: taha_hej@yahoo.com and muhamm9000@puncakalam.uitm.edu.my, Tel: 0060193098141 (M.T.); noriz118@salam.uitm.edu.my; Tel: 03-55435590; Fax: 03-55444562 (N.A.)