Antiviral and Antischistosomal Evaluation of Newly Synthesized Thioglycosides and their Acyclic Analogues

Aladdin M. Srour[a,*], Abd El-Hamid A. Ismail[b], Salah M. El-Kosy[b], and Ibrahim F. Zeid[b]

[a] Therapeutical Chemistry Department, National Research Centre, Cairo, Egypt.
E-mail: dr_aladdinms@yahoo.com
[b] Chemistry Department, Faculty of Science, Menoufia University, Shebin El-Koom, Egypt

* Author for correspondence and reprint requests

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The pyrimidine thione derivatives **2a**–**d** were prepared by the reaction of thiourea, ethyl cyanoacetate and several aromatic aldehydes. The acyclic thioglycosides **4a**–**7d** were prepared by the reaction of the synthesized pyrimidine thiones **2a**–**d** with different alkyl halides, whereas the reaction of **2a**–**d** with 2,3,4,6-tetra-*O*-acetyl-β-D-glucopyranosyl bromide afforded the cyclic thioglycosides **8a**–**d** whose deprotection afforded **9a**–**d**. The obtained compounds were tested for their antischistosomal and antiviral activity against hepatitis B virus (HBV). Compounds **5a**, **5d**, **7a** showed high activity against HBV using the MTT assay; moreover compounds **5c**, **6d**, **7a**, **9a**, **9c** exhibited high activity as antischistosomal agents.

Key words: Pyrimidine Thione, Thioglycosides, Antischistosomiasis