Evaluation of the thiophenic derivative ''SB-200'' and its potential against *Trypanosoma cruzi*

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Chagas disease stands as one of the most severe and widespread neglected tropical diseases globally. Currently available pharmaceuticals on the market present several issues, including high costs, substantial toxicity, and a growing incidence of parasite resistance. Hence, the quest for therapeutic alternatives is pressing.Thiophene is a five-membered compound with sulfur as its heteroatom and double bonds at positions 2 and 4, forming an aromatic system. Thiophene derivatives are found in various organisms, including fungi and plants, and are easily synthesized in the laboratory, with numerous reports of their anti-Trypanosoma cruzi activity.SB-200, a 2-aminothiophenic derivative, has previously exhibited promising anti-Leishmania activity against *Leishmania (Leishmania) amazonensis*. Given these encouraging previous results, the aim of this study was to evaluate the anti-*Trypanosoma* activity of SB-200 against *Trypanosoma cruzi*.The anti-Trypanosoma activity of SB-200 was assessed against both epimastigote and trypomastigote forms of the CL strain. The obtained IC50 values were 2.69 µM for epimastigotes and 29.69 µM for trypomastigotes, obtained through counting in the Neubauer chamber. These findings lead to the conclusion that the 2-aminothiophenic derivative SB-200 holds significant potential as an anti-*Trypanosoma* compound and serves as a candidate for further advancement in the pursuit of new Chagas disease treatments.

Key words: Thiophenic derivative, Chagas disease, *Trypanosoma cruzi*.

Avaliação do derivado tiofênico ''SB-200'' e seu potencial contra o Trypanosoma cruzi

A doença de Chagas, uma das doenças tropicais negligenciadas mais graves e prevalentes, enfrenta desafios com fármacos atuais, incluindo custos elevados, toxicidade e resistência parasitária. O tiofeno, composto de fácil síntese e com histórico antileishmania. O SB-200, derivado 2-amino-tiofênico com atividade antileishmania, foi avaliado contra o *Trypanosoma cruzi*. Resultados demonstraram potencial anti-*Trypanosoma*, com CI50 de 2,69 µM para epimastigotas e 29,69 µM para tripomastigotas da cepa CL. Conclui-se que o SB-200 é um promissor composto anti-*Trypanosoma* e candidato para futuros estudos no tratamento da doença de Chagas.

Palavras-chave: Derivado tiofênico, Doença de Chagas, *Trypanosoma cruzi*.

Acknowledge: *(optional) This work was developed having support from institution XYZ.*