

Search for new drugs as pharmacological targets

Ana María Plutín Stevens*, Raúl Ramos Cairo and Raúl Mocelo Castell

Laboratory of Organic Synthesis, Faculty of Chemistry, University of Havana, Havana, Cuba

Introduction

Among the most effective agents for the treatment of cancer there are some metallogas based on cisplatin causing great interest in the search of antitumor agents that are more effective and with fewer side effects [1]. It is known that *Mycobacterium tuberculosis*, the causative agent of tuberculosis, is responsible for the death of around 1.73 million people annually. The increase of resistance to multiple drugs and the little development of new specific compounds, has complicated and prolonged the treatment of tuberculosis [2,3].

On the other hand, Chagas disease, caused by the parasite *Trypanosoma cruzi* (*T. cruzi*), affects approximately 7 million people worldwide, with a high prevalence in Latin America [4].

The few medications available, for their treatment benznidazole and nifurtimox, are only effective when administered during the acute phase, but are not effective in patients who have moved into the chronic phase [5]. In addition, these medications are not considered ideal, due to their serious side effects [4], thus the search for new antiparasitics is also necessary.

The Laboratory of Organic Synthesis of the Faculty of Chemistry of the University of Havana has as a priority the obtaining of new molecules that present biological activity, from which drugs can be obtained for the treatment of diseases such as cancer, tuberculosis and Chagas disease, which are latent diseases in our country and Latin America.

Within this, thematic one has experience in the preparation of Organic compounds and their metallic complexes with potential biological activity *in vitro*.

In general, the search for bioactive compounds has become an object of study in different Research Institutions. In particular, the drugs designed for the treatment of diseases such as cancer, tuberculosis and *American trypanosomiasis* have been increasing in the search for a better quality of life of the patient developing.

Results

The *in vitro* antitumor activity of the ligands and their metal complexes were evaluated tumor cells DU-145 (prostate cancer cells), (MDA-MB-231 (breast cancer cells), L929 (healthy cells of mouse), antibacterial against strains of *M. tuberculosis* H37Rv and antiparasitic against epimastigotes of *Trypanosoma cruzi*. Of the exposed results, eight of the thirty-two metal complexes were active against the evaluated targets [6-8].

The results obtained lie in the contribution to scientific knowledge and can contribute to the development of new medicines to provide a better quality of life for people.

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***Correspondence to:** Ana María Plutín Stevens, Laboratory of Organic Synthesis, Faculty of Chemistry, University of Havana, Havana, Cuba, E-mail: anap@fq.uh.cu

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