Technology Offer CSIC/CV/011

Styryl benzothiazolium salts as antiparasitic therapy

New compounds to treat parasitic diseases such as Chagas disease, leishmaniasis and trypanosomiasias.

These derivatives act on a new target: G-cuadruplex DNA

Intellectual Property

European priority patent application filed

Stage of development

TRL3 - In vitro efficacy proved

Intended Collaboration

Licensing and/or co-development

Contact

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Market need

Chagas disease, leishmaniasis and trypanosomiasis are considered neglected tropical diseases that affect both humans and animals. Due to immigration and climate change, the numbers of cases in Europe (80,000) and North America (300,000 in the USA and 2-5 million in Mexico) are increasing very significantly. Currently, treatments against these diseases have high toxicity and are not very effective against them, mainly due to the emergence of new resistances. Thus, new improved antiparasitic agents are needed for the treatment of these diseases.

Proposed solution

New compounds, derived from styryl benzothiazolium salts, have been developed, showing high antiparasitic activity for the treatment of diseases such as leishmaniasis or Chagas disease.

It has been shown to be effective *in vitro* against Trypanosoma cruzi, Leishmania major, Leishmania donovani and Trypanosoma brucei.

Competitive advantages

- The new compounds act on new targets, G-quadruplex DNA.
- Very low toxicity in healthy human cell lines.
- Antiparasitic efficacy in the submicromolar range against T. cruzi and T. brucei and in the nanomolar range against L. major and L. donovani.