

## New compounds for the treatment of Leishmaniasis

### DESCRIPTION OF THE TECHNOLOGY

There are a number of serious human diseases, such as Chagas disease and leishmaniasis, which are classified by the WHO as neglected diseases. These infections are caused by parasites belonging to the family *Trypanosomatidae*.

Leishmaniasis is the ninth most severe infectious disease in the world, and is caused by the *Leishmania spp.* parasite. The clinical manifestations are diverse and can be fatal if not treated in time.

The problem with current treatments for leishmaniasis lies in their low efficacy, high side effects and the lack of an effective vaccine.

Researchers from the University of

Valencia and the University of Granada have demonstrated the usefulness of polyamine compounds in the treatment of parasitic diseases of the *Trypanosomatidae* family, specifically leishmaniasis, by means of in vitro tests.

The compounds act by reducing the infective and reproductive capacity of the parasites and, therefore, reducing their survival, and have also been shown to be less toxic than the current treatment, meglumine antimoniate (glucantime).

These compounds have also been shown to have activity against different species of the genus *Leishmania*, so the treatment would be broad-spectrum.

### MARKET APPLICATION SECTORS

The main application of the technology is in the pharmaceutical and/or veterinary sector, as a drug or active ingredient for the treatment of parasitic diseases in humans and/or animals.

### TECHNICAL ADVANTAGES AND BUSINESS BENEFITS

The main advantages provided by the invention are:

- High specificity: the compounds inhibit the enzyme iron superoxide dismutase, essential for the survival of *Trypanosoma* and *Leishmania* parasites in the host.
- Can be used as a broad-spectrum treatment for *Leishmania* diseases.
- Lower toxicity than reference compounds.
- Lower cost of treatment and easier to produce.
- Easily scalable production of the compounds.

### CURRENT STATE OF DEVELOPMENT

The technology has been validated in vitro against three significant species of *Leishmania*: *L. infantum*, *L. braziliensis* and *L. donovani* on both extra- and intracellular forms of the parasites.

### INTELLECTUAL PROPERTY RIGHTS

The technology is protected through Spanish patent application P202030713, with the title "Use of simple acyclic polyamines for the treatment of diseases caused by parasites of the family *Trypanosomatidae*" and priority date 10/07/2020.

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### COLABORATION SOUGHT

- Pharmaceutical company to license.
- Subcontracting agreement with another company.
- R&D project to advance development.
- Pharmaceutical company or investors to run clinical studies.

### RELATED IMAGES

### CONTACT

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