Antibiotics to treat diseases caused by Helicobacter

CSIC, the University of Zaragoza, Institute Pasteur, IISA and ARAID have developed chemical derivatives that act selectively against the bacterium Helicobacter pylori, managing to reduce the bacterial load and even eradicate gastric infections caused by it.

Industrial partners from the pharmaceutical industry are being sought to collaborate through a patent licence agreement.

An offer for Patent Licensing

Fighting gastric infections without resistance

The bacterium Helicobacter pylori (Hp) causes asymptomatic infections in the gastric mucosa that can induce chronic gastritis, ulcers even gastric cancer. So far, conventional therapies are aggressive and the rate of eradication is decreasing, as Hp is increasingly resistant to such treatment.

Derivatives of benzo [c] [1,2,5]oxadiazol (Figure 1) are antimicrobials that act individually (without combination with other drugs) and selectively, attack a specific enzyme of the bacterium, its flavodoxine. In humans the enzyme is not present, so possible secondary damage is avoided.

The results obtained in mice have been, reduced rates of gastric colonization of Hp and even eradication in up to 60% of mouses.

Main innovations and advantages

- New antibiotics without known resistances.
- Efficacy in resistant strains.
- Safety: No toxicity at their active concentrations.
- Low cost synthesis.
- Bactericidal activity at low concentrations.
- Current status, in vitro: toxicity in cells and in vivo: both toxicity and efficacy test in mouses.

Patent Status
Spanish patent application filed

For more information, please contact:
Maribel Blázquez Álvarez
Deputy Vice-Presidency for Knowledge Transfer.
Spanish National Research Council (CSIC)
Tel.: +34 91 568 1445
E-mail: maribel.b@csic.es commercializacion@csic.es