INRODUCTION

- More than half the children in our planet live in Malaria-endemic countries
- Schistosomiasis affects around 28 million preschool-age children
- 8 million people are estimated to being affected by Chagas worldwide

The paediatric treatments available are solid forms of artemunate-mefloquine (25-50mg) (MOAS), praziquantel (600mg) (PZQ) and benznidazole (12.5mg) (BNZ). MOAS and BNZ are considered for paediatric use but they are just an adult form weight/dosage adaptation. PZQ formulation is based on the off-label use of adult dosage form. All of them are used without taste masking excipients. The aim of this study was to evaluate the taste of these commercial medicines used for treating neglected tropical diseases by in vivo and in vitro taste assessment tests as a screening tool for early stage development of palatable oral paediatric formulations.

METHODS

A model of rat palatability was adapted with recirculation to ensure sample dispersion (Figure 1).

RESULTS

- Tendency to aversion of the commercial medicines MOAS, PZQ and BNZ, when compared to their respective placebos.
- Water results showed the suitability of the test for this purpose.
- PZQ placebo showed the lowest aversion of all analysed samples and, even then, it was not enough to make the API more palatable.

CONCLUSION

Although the electronic tongue has provided important results for MOAS and BNZ, other experiments should be conducted to understand the PZQ result, whose bitter taste is already known. The combination of these two types of assessment may help select the most promising formulations for human taste panel and/or clinical trials. Most importantly, using an electronic tongue in a taste assessment screening tool may allow for replacing animal tests.