

---

# 9th International Conference on the PATHOGENESIS OF MYCOBACTERIAL INFECTIONS

---

STOCKHOLM, SWEDEN 26–29 JUNE 2014



[www.mycobact2014.se](http://www.mycobact2014.se)

## Or21

**Nyaditum resae®**, a new immunomodulatory compound to prevent and treat active tuberculosis (TB).

Elena Marzo, Paula Cardona, Jorge Diaz, Vanessa Garcia, Sonia Rebollo, Antoni Planella, Cristina Vilaplana, Pere-Joan Cardona  
*Unitat de Tuberculosi Experimental (UTE), Fundació Institut Germans Trias i Pujol (IGTP); Universitat Autònoma de Barcelona; CIBER Enfermedades Respiratorias, Badalona, Spain*

**Background:** An exacerbated inflammation has been recently pointed out as a key factor in active tuberculosis (TB) development, highlighting the role of neutrophils and pro-inflammatory cytokines in a mouse model of active TB. In this model, NSAIDs proved to control the disease by modulating the antiinflammatory activity. A further step has been taken, a new therapeutic strategy being developed through the induction of tolerance to Mtb.

**M&M:** The Cardona's murine model of active TB was used<sup>1</sup>. C3HeB/FeJ Mice were infected intravenously (IV) with *M.tuberculosis* (Mtb) H37Rv Pasteur strain and tolerance to Mtb was induced through administration of heat-killed mycobacteria at low doses. Different dose regimens, administration schedules and mycobacteria species were tested. The effect on mice survival, Bacillary Load (BL), histology and T-cell populations by flow cytometry were studied.

**Results:** Heat-killed *M.tuberculosis* (Mtb), BCG, *M.kansasii* and *M.fortuitum* increased the survival of Mtb-infected animals when administered ly and generated a better outcome in terms of BL and histopathology. Regulatory T cells in blood, lung and spleen showed an immunomodulatory effect of the treatment. Best results were achieved by the daily administration of heat-killed *M.fortuitum manresae* (Nyaditum resae®) during two weeks in a prophylactic and therapeutic manner.

**Conclusions:** A new tool to control active pulmonary TB through immunomodulation has been patented and developed. Given its intrinsic features and safety profile a clinical trial has been launched and the product will be available as food supplement in the market in late 2014.

**Acknowledgements:** ISCIII (FIS11/0782, CP13/00174); Manremyc.

**References:** <sup>1</sup> PMID: 24291066