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**Title:** Response to Mtb Rv2628 latency antigen associates with bacterial containment

Linda 15420 Petrone linda.petrone@inmi.it<sup>1</sup>, Valentina 15421 Vanini valentina.vanini@inmi.it<sup>1</sup>, Elisa 15422 Petruccioli elisa.petruccioli@inmi.it<sup>1</sup>, Teresa 15423 Chiacchio teresa.chiacchio@inmi.it<sup>1</sup>, Gilda 15424 Cuzzi gilda.cuzzi@inmi.it<sup>1</sup>, Kees L. M. C. 15441 Franken c.l.m.c.franken@lumc.nl<sup>2</sup>, Francesco Nicola 15449 Lauria francesco.lauria@inmi.it MD<sup>3</sup>, Enrico 15453 Girardi enrico.girardi@inmi.it MD<sup>4</sup>, Tom H.M. 15455 Ottenhoff t.h.m.ottenhoff@lumc.nl<sup>2</sup> and Delia 23416 Goletti delia.goletti@inmi.it MD<sup>1</sup>. <sup>1</sup> Translational Research Unit, Department of Epidemiology and Preclinical Research, National Institute for Infectious Diseases "Lazzaro Spallanzani", Rome, Italy, 00149 ; <sup>2</sup> Department of Infectious Diseases, Leiden University Medical Center, Leiden, Netherlands, 2333 ; <sup>3</sup> Clinical Department, National Institute for Infectious Diseases "Lazzaro Spallanzani", Rome, Italy, 00149 and <sup>4</sup> Clinical Epidemiology Unit, Department of Epidemiology and Preclinical Research, National Institute for Infectious Diseases "Lazzaro Spallanzani", Rome, Italy, 00149 .

**Body:** Introduction: Interferon(IFN) $\gamma$  response to Mtb Rv2628 latency antigen is associated with latent tuberculosis infection (LTBI). Immune response against Rv2628 may contribute to evaluate Mtb infection control. Aims: To compare the Rv2628 specific response in recent contacts of patients with active TB before, during and after isoniazid prophylaxis. Methods: In this cross-sectional study we evaluated 139 QuantiFERON TB-Gold In-Tube (QFT-IT) positive contacts: 37 enrolled at baseline, 32 during prophylaxis, 17 at the end of prophylaxis, 53 after 1 year of prophylaxis completion. Whole blood IFN $\gamma$  response to Rv2628 and QFT-IT (early phase antigens) at day 1 post-culture was evaluated. Controls unexposed to Mtb were also included. Results: IFN $\gamma$  levels in response to Rv2628 antigen were significantly higher at baseline than after 1 year prophylaxis completion ( $p < 0.0001$ ). The quantitative IFN $\gamma$  response to QFT-IT was significantly higher at baseline than at the end of prophylaxis ( $p = 0.023$ ) or after 1 year prophylaxis completion ( $p = 0.001$ ); however all the subjects were QFT-IT positive at all the time points considered. Unexposed controls did not respond to Rv2628 and QFT-IT. Conclusions: Whole blood IFN $\gamma$  response to Rv2628 antigen is significantly reduced in QFT-IT-positive contacts after 1 year prophylaxis completion. Rv2628 is considered a latency antigen therefore it is unclear at the moment if the decreasing response is due to the fact that prophylaxis allows Mtb eradication and a consequent decrease in latency responses, or whether prophylaxis inhibits Mtb to remain in a latent stage. These results may be helpful to better characterize LTBI immune response and to generate tools to monitor prophylaxis efficacy.