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The host microbiome and impact of tuberculosis chemotherapy

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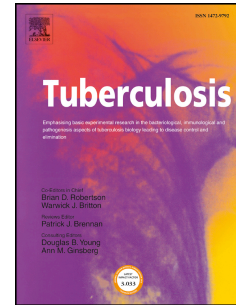
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Title**The Host Microbiome and Impact of Tuberculosis Chemotherapy**Ronan F. O'Toole^{1,2*}, Sanjay S. Gautam¹

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Abstract

The treatment of *Mycobacterium tuberculosis* infection is often viewed in isolation from other human microbial symbionts. Understandably, the clinical priority is eliminating active or latent tuberculosis (TB) in patients. With the increasing resolution of molecular biology technologies, it is becoming apparent that antibiotic treatment can perturb the homeostasis of the host microbiome. For example, dysbiosis of the gut microbiota has been associated with an increased risk of the development of asthma, obesity and diabetes. Therefore, the fundamental question is: Does TB chemotherapy cause disruption of the human microbiome and adverse effects in patients, and are there signature taxa of dysbiosis following TB treatment. In this review, we examine recent research on the detection of changes in the microbiome during antibiotic administration and discuss specific findings that relate to the impact of anti-tubercular chemotherapy.

Keywords: Tuberculosis; Antibiotic; Microbiome

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