

# Evaluation of macrolides for possible use against multidrug-resistant *Mycobacterium tuberculosis*

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## Abstract

Multidrug-resistant tuberculosis (MDR-TB) is a major global health problem. The loss of susceptibility to an increasing number of drugs behoves us to consider the evaluation of non-traditional anti-tuberculosis drugs.

Clarithromycin, a macrolide antibiotic, is defined as a group 5 anti-tuberculosis drug by the World Health Organization; however, its role or efficacy in the treatment of MDR-TB is unclear. A systematic review of the literature was conducted to summarise the evidence for the activity of macrolides against MDR-TB, by evaluating *in vitro*, *in vivo* and clinical studies. PubMed and Embase were searched for English language articles up to May 2014.

Even though high minimum inhibitory concentration values are usually found, suggesting low activity against *Mycobacterium tuberculosis*, the potential benefits of macrolides are their accumulation in the relevant compartments and cells in the lungs, their immunomodulatory effects and their synergistic activity with other anti-TB drugs.

A future perspective may be use of more potent macrolide analogues to enhance the activity of the treatment regimen.