

Antimicrobial peptides as an alternative to anti-tuberculosis drugs

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ABSTRACT

[Tuberculosis](#) (TB) presently accounts for high global mortality and [morbidity](#) rates, despite the introduction four decades ago of the affordable and efficient four-drugs (isoniazid, [rifampicin](#), pyrazinamide and ethambutol). Thus, a strong need exists for new drugs with special structures and uncommon modes of action to effectively overcome *M. tuberculosis*. Within this scope, antimicrobial peptides (AMPs), which are small, cationic and [amphipathic](#) peptides that comprise a section of the innate immune system, are currently the leading potential agents for the treatment of TB. Many studies have recently illustrated the capability of anti-mycobacterial peptides to disrupt the normal mycobacterial cell wall function through various modes, thereby interacting with the intracellular targets, as well as encompassing nucleic acids, enzymes and organelles. This review presents a wide array of antimicrobial activities, alongside the associated properties of the AMPs that could be utilized as potential agents in therapeutic tactics for TB treatment.

Keywords: Antimicrobial peptides (AMPs); Tuberculosis; Synergistic effect; New anti-tuberculosis drugs