RETHINKING THE OLD AND TRUSTWORTHY –
NEW DRUGS FOR TB

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Novel approaches linking drug candidates to gene association studies are needed to overcome the threat posed by the emergence of drug-resistant M. Tuberculosis (MTB). More effective agents against multidrug resistant tuberculosis (MDR-TB) able to shorten the duration of treatment are needed, particularly those targeting the eradication of the latent form of TB.

Drug development with an existing drug as a lead compound, with efficacy improvement through structure-based successful manipulation, can be considered an attractive strategy from the economic, pharmaceutical and clinical points of view (1,2).

The rifamycin state-of-the-art suggests that even considering that these drugs display many admirable qualities it is quite possible to devise improved rifamycin analogs against MTB (3).

The extensive drug-drug interactions seen with rifampin (RFP) have already been somewhat ameliorated with rifabutin (RFB). RFB is a semi-synthetic spiro-piperidyl derivative of ansamycin family of antibiotics (4,5,6).

Aiming to improve its pharmacological properties, novel RFB analogs have been synthesised and tested in vitro against M. tuberculosis strains.

Figure 1: General structure of the new rifamycins synthesized


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