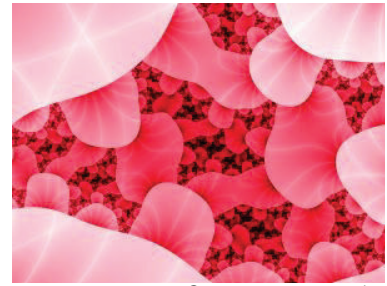


A NEW CLASS OF DRUGS FOR THE TREATMENT OF TUBERCULOSIS

“Compounds offer new possibility of fighting drug-resistant tuberculosis.”



Source: www.sxc.hu

Preclinical research

Research into potential targets

Clinical research

Registration

Market

▶ Drug

Description

The technology consists of a new class of active compounds against the tuberculosis bacillus and the process to obtain them. The new compounds present a possible therapeutic potential against the current drug-resistant strains of TB. The compounds can be used in the preparation of medications against tuberculosis, and as antiseptics and disinfectants.

Problem

Current TB treatment is very lengthy and requires taking numerous pills, leading to a high abandonment rate by patients. Incomplete treatment favors the emergence of new cases of the drug-resistant disease, which drastically increases treatment expenditures and mortality rates. No new drug against tuberculosis has been developed for more than 40 years (TB Alliance Annual Report, 2009).

Proposed solution

The newly developed compounds have proven to be effective, *in vitro*, against the principal agent of Tuberculosis, *Mycobacterium tuberculosis*, and are sensitive to the current therapeutic scheme as well as to mono- and multidrug-resistant isolates.

Benefits

The new compounds present high inhibitory activity against *M. tuberculosis*, as effective as or more effective than the best drugs currently used for TB treatment (rifampicin, isoniazid, ethambutol and pyrazinamide), with minimal cytotoxic effects in *in vitro* trials in macrophage cell cultures. The main differential is the possibility of acting upon the strains resistant to the current drugs. The use of the compounds would bring numerous benefits, such as:

- Effective treatment against tuberculosis and possible treatment against drug-resistant tuberculosis;
- Shorter treatment time;
- With higher efficiency allied to less time, the new drug should reduce the abandonment rate and the costs of the treatment.

Market potential

The World Health Organization has estimated that tuberculosis (TB) kills one person every 20 seconds, approximately 5,000 people per day, and 1.8 million just in the year 2008. Annually, 9.2 million people catch the disease, and approximately 500 thousand are caused by the drug-resistant MDR-TB or XDR-TB strains. The treatment of drug-resistant tuberculosis takes on average two years and its cost is very high: approximately 1,400 times more expensive than the conventional treatment. It is expected that one to three trillion dollars will be spent on the treatment of TB in underdeveloped and developing countries in the next 10 years. Even with government help, a TB patient spends on average 30% of his entire income on the disease. In the most affected countries, it is estimated that the loss of productivity resulting from the disease has a negative impact of 7% on the GNP (who, 2008; Global Alliance for TB Drug Development, 2010).

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