In Vivo Efficacy of DC-159a, a New Generation of Respiratory Quinolone, against Experimental Mucobacterium Tuberculosis Infection in CBA/JNCrlj Mice

**ABSTRACT**

Background: DC-159a is a novel, potent, and selective quinolone that inhibits Mycobacterium tuberculosis (M. tuberculosis) growth.

**MATERIALS AND METHODS**

Mice were infected with M. tuberculosis and treated with DC-159a for 20 days. The concentrations of DC-159a in lung and serum were measured by HPLC method. The results showed that DC-159a facilitated the improvement of pulmonary TB in consequence of its potent anti-M. tuberculosis activity. These results indicate that DC-159a might be a promising candidate for the treatment of pulmonary TB.

**RESULTS**

The concentration and lung/serum ratio of DC-159a in CBA/JNCrlj mice were higher than those of MFLX, LVFX and LVFX (100 mg/kg) in mice at 6- and 9-day-treatment, DC-159a 50 mg/kg and INH 10 mg/kg showed equivalent "Log Reduction of CFU in Lungs". In addition, after 9-day-treatment, DC-159a 50 mg/kg showed better "Log Reduction of CFU in Lungs" than GFLX and LVFX. The results showed that DC-159a could be a promising candidate for the treatment of pulmonary TB.

**DISCUSSION**

These results indicate that DC-159a might be a promising candidate for the treatment of pulmonary TB.