**BIOLOGICAL ACTIVITY**

**Description**

D13-9001 is a potent AcrB (AcrAB-ToIC efflux pump subunit) and MexB (MexAB-OprM efflux pump subunit) inhibitor with the \( K_D \) values of 1.15 \( \mu \)M and 3.57 \( \mu \)M in E. coli and P. aeruginosa, respectively\(^1\). D13-9001 exhibits antibiotic activities\(^2\).

**IC\(_{50}\) & Target**

KD: 1.15 \( \mu \)M (AcrB), 3.57 \( \mu \)M (MexB)\(^1\)

**In Vitro**

D13-9001 exhibits high solubility and a good safety profile\(^3\).

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo**

D13-9001 (1.25-20 mg/kg; intravenous drip infusion; 2 hours) with aztreonam (AZT) gives improved survival rates in a lethal pneumonia rats at the end of day seven compared with AZT treated alone\(^3\).

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**Animal Model:** SD rats (Pulmonary infection by P. aeruginosa PAM1020)\(^3\)

**Dosage:** 1.25 mg/kg, 5 mg/kg, 20 mg/kg

**Administration:** Intravenous drip infusion; 2 hours

**Result:** The combination of 1.25, 5, and 20 mg/kg of D13-9001 with 1000 mg/kg of AZT gave improved survival rates at the end of day seven, whereas no obvious effect was observed on treatment with AZT alone.

**REFERENCES**


