In Vitro Activity of CEM-101 against Legionella Spp.

J. Dubois¹, P. Fernandes²
¹CSSS Coaticook, Sherbrooke, Canada, ²Cempra Pharmaceutical Inc., Chapel Hill, NC.

Background:
CEM-101 is a new fluoroketolide that has potent activity against respiratory tract pathogens. The activity against a variety of Legionella species was investigated.

Methods:
The in vitro activity of CEM-101 was compared with that of telithromycin, azithromycin, erythromycin, levofloxacin and doxycycline against a total of 256 Legionella spp. by a standard agar dilution procedure using buffered yeast extract agar. The species tested included L. pneumophila serogroup 1 to 9 (206 isolates), L. dumoffii (20), L. micdadei (20) and L. longbeacheae (10).

Results:
CEM-101 (MIC₉₀ 0.016 mg/L) was more active than telithromycin (MIC₉₀ 0.06 mg/L), azithromycin (MIC₉₀ 0.25 mg/L), erythromycin (MIC₉₀ 1 mg/L) and doxycycline (MIC₉₀ 1 mg/L). CEM-101 was as active as levofloxacin (MIC₉₀ 0.016 mg/L) against L. pneumophila. CEM-101 was less active against L. pneumophila serogroup 1, 3, 4, 5, and 6 strains (MIC₉₀ 0.016 mg/L) than L. pneumophila serogroup 2, 7, 8, 9 and 12 (MIC₉₀ 0.008 mg/L). Against L. micdadei and L. dumoffii, erythromycin (MIC₉₀ 1 mg/L), doxycycline (MIC₉₀ 1 mg/L) and azithromycin (MIC₉₀ 0.25 mg/L) were less active than CEM-101 (MIC₉₀ 0.12 mg/L) and telithromycin (MIC₉₀ 0.12 mg/L). Against L. longbeacheae, CEM-101 (MIC₉₀ 0.06 mg/L) was more active than levofloxacin (MIC₉₀ 0.12 mg/L), telithromycin (MIC₉₀ 0.12 mg/L), azithromycin (MIC₉₀ 0.12 mg/L), erythromycin (MIC₉₀ 0.5 mg/L) and doxycycline (MIC₉₀ 1 mg/L).

Conclusions:
These data confirm the interesting activity of this new fluoroketolide, CEM-101 against Legionella spp.