

# Superior anti-inflammatory effects of a novel macrolide/fluoroketolide, CEM-101 in monocytic cells

## Abstract 3506

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### **Rationale:**

Macrolides are reported to reduce exacerbation of COPD and also show anti-inflammatory effects in vitro. However the anti-inflammatory efficacies of current macrolides are not optimum. Here we found that CEM-101, a novel macrolide/fluoroketolide (starting Phase 2) which has activities against wide range of bacteria causing pneumonia, showed more potent anti-inflammatory effects than any other macrolides being marketed.

### **Methods:**

Effects of CEM-101 on PMA-induced MMP9 production and LPS-induced IL-8 and TNF $\alpha$  release in U937 monocytic cells have been evaluated and compared with the effects of erythromycin (EM), clarithromycin (CAM), azithromycin (AZM) and telithromycin (TEL).

### **Results:**

CEM-101 concentration-dependently inhibited MMP9/IL-8/TNF $\alpha$  production in U937 with IC<sub>50</sub>s of  $28.9 \pm 1.6 \mu\text{M}$ ,  $78.2 \pm 9.5 \mu\text{M}$  and  $41.6 \pm 1.9 \mu\text{M}$  respectively. In contrast, CAM had 10 times less anti-inflammatory effects than CEM-101. EM, AZM and TEL did not show significant anti-inflammatory effects.

### **Conclusions:**

CEM-101 shows better anti-inflammatory profiles compared with macrolides currently used in clinic, and will be a promising anti-inflammatory and anti-bacterial macrolide/fluoroketolide for the treatment of COPD.