

Sarah Harding¹, Kay Barnes¹, Karleigh Hamblin¹, Mark Richards¹, Andreas Vente² and Helen Atkins¹

¹ Dstl Porton Down, Salisbury, Wiltshire, SP4 OJQ

² MerLion Pharmaceuticals, Berlin, Germany

Problem: The biological warfare agents (BWA's) are resistant to treatment with the antibiotics that are currently available. Added to this is the global, increasingly important issue of Antimicrobial Resistance (AMR). Finafloxacin is an antibiotic that has been chemically altered by MerLion Pharmaceuticals to improve its activity. We have shown that finafloxacin is significantly better than ciprofloxacin when used to treat infections with *Burkholderia pseudomallei*, *Francisella tularensis* and *Coxiella burnetii*. Figure 1 demonstrates this activity for *Burkholderia pseudomallei*.

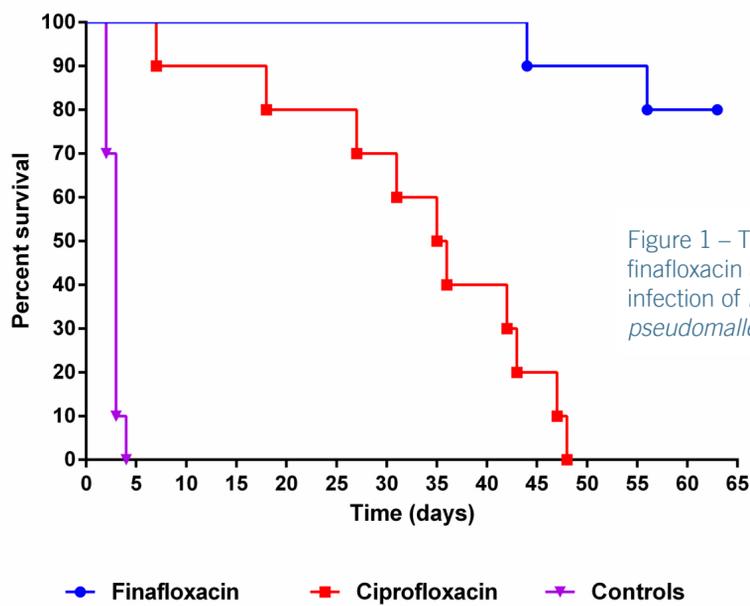


Figure 1 – The protective effect of finafloxacin against an inhalational infection of *Burkholderia pseudomallei*



Collaborator: MerLion Pharmaceuticals are currently developing finafloxacin for the treatment of urinary tract infections. Their concept of use is treating with an intravenous formulation followed by a step down to oral therapy. Finafloxacin has completed Phase 2 clinical trials and no serious side effects have been reported. Finafloxacin also has activity against multi-drug resistant bacteria, see Figure 2.

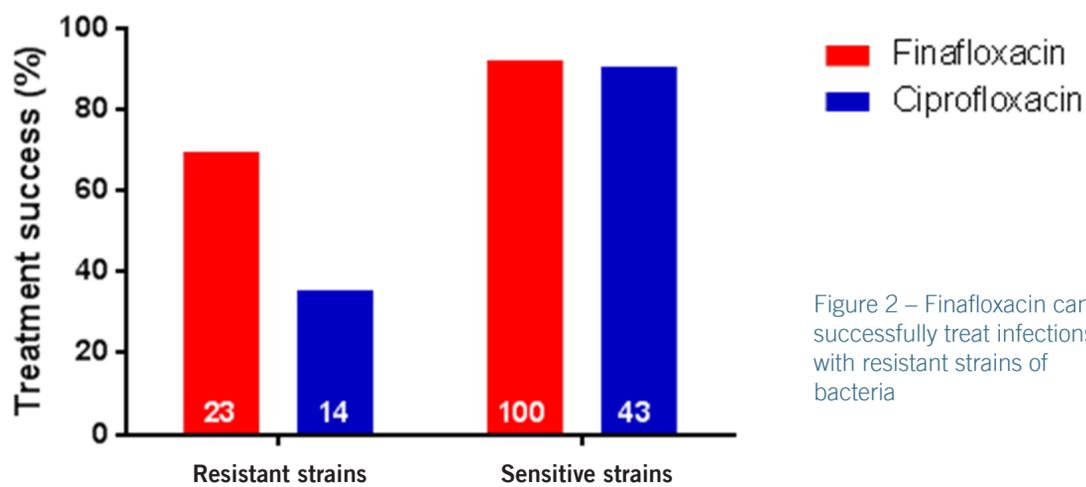


Figure 2 – Finafloxacin can successfully treat infections with resistant strains of bacteria

Benefits: The additional benefits of using finafloxacin are demonstrated in Figure 3.

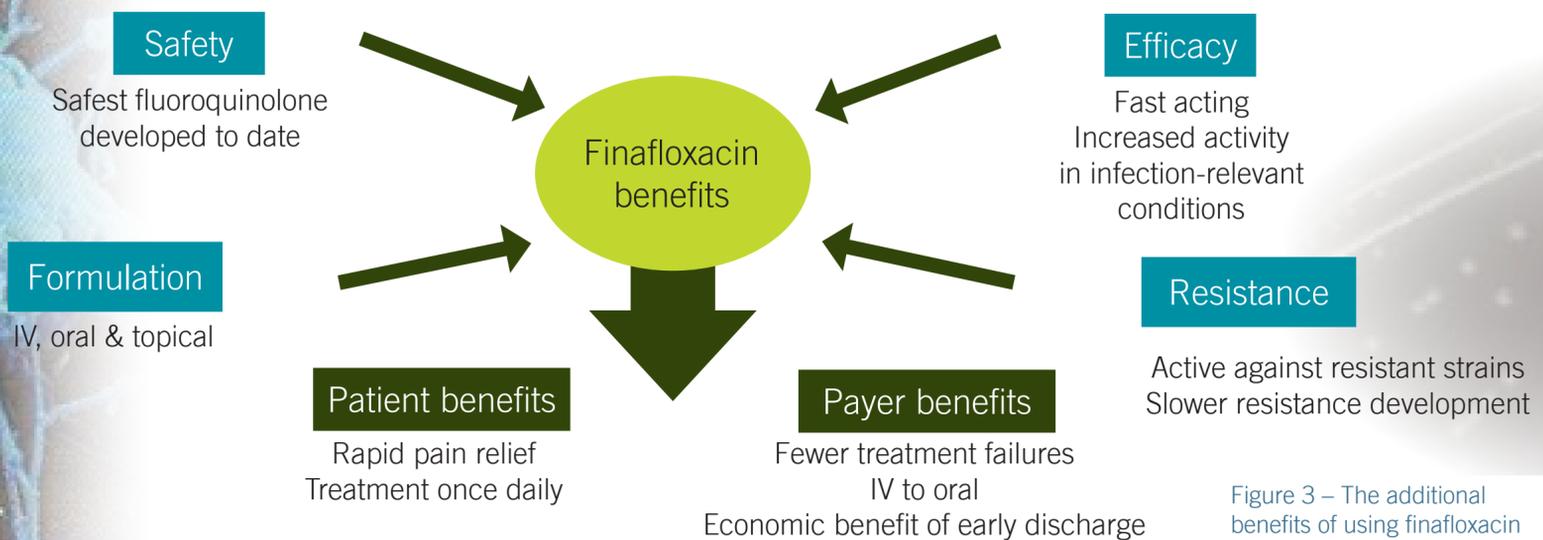


Figure 3 – The additional benefits of using finafloxacin

Future: We are continuing to investigate finafloxacin as part of a multinational consortium through the MOU as an alternative antibiotic for use against infections with BW agents.