We are delighted that the International Pig Veterinary Society Congress 2004, decided to select South Africa as the host country for the 20th IPVS Congress. The Pig Veterinarians of South Africa will ensure that this congress lives up to the best traditions of previous congresses; incorporating an interesting and topical scientific programme, fascinating accompanying persons tours and an excellent social programme, allowing delegates the opportunity to network with their overseas colleagues.

This, the first IPVS congress on the African continent, will undoubtedly be of enormous benefit in generating solutions to the emerging pig veterinary challenges, especially those related to exotic and changing viral diseases, decreased use of antimicrobials and nutritional advances. The congress is important to further pig veterinary science in South Africa, to encourage younger veterinarians to join the pig industry, as a vehicle to generate funds for research and to improve the pig industry in Southern Africa.

South Africa is a magnificent and beautiful country, and offers tourists value for money. Thus, pre and post congress tours will be a major attraction for delegates to come to South Africa. Durban, in KwaZulu Natal, is a vibrant multi-cultured city with magnificent beaches, easily accessible game parks, theme villages and a moderate winter climate making it an ideal tourist destination. We urge our colleagues throughout the world to use this opportunity to get a glimpse of the continent’s rich and fascinating wonders and to enjoy the hospitality of their African friends.

Dr Peter Evans
Chairman: Local Organising Committee: IPVS 2008
Determination of Cefquinome Concentrations in Bronchoalveolar Lavage Fluid

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Introduction and Objectives
Respiratory disorders are amongst the most important diseases in modern pig production. The pathology of respiratory disease is complex and often multifactorial. Apart from viruses, respiratory pathogens that are commonly found in pigs include Mycoplasma hyopneumoniae, Actinobacillus pleuropneumoniae, Haemophilus parasuis, Pasteurella multocida and Streptococcus suis. The susceptibility of the pathogen to antimicrobials and the distribution of the antimicrobials to the lungs must be taken in consideration when selecting an appropriate treatment strategy. Cefquinome is a fourth-generation cephalosporin, which has been developed for veterinary use only. It shows antimicrobial activity against a broad spectrum of Gram-positive and Gram-negative bacteria, and is regarded as being highly stable to β-lactamase.

Materials and Methods
Twenty weaned piglets of 4 weeks were used. After acclimatization for one week, pigs were injected intramuscularly with 2mg Cefquinome/kg body-weight, according to label instructions. At 1, 2, 4, 8 and 12h post treatment, each time 4 animals were blood sampled, and euthanized to collect the lungs and the trachea. Plasma was divided into two aliquots for measuring the concentrations of Cefquinome and Urea, respectively. Each lung was divided in two (Left and Right) by placing a clip on the bifurcation trachea. BAL was performed by using 50ml aqua dest. in each lung half separately. The recovered BAL fluids of each lung half were divided into two aliquots. One aliquot was used to measure unbound Cefquinome concentration, the other for Urea concentration. Samples were stored at -70°C until analysis was performed. The concentrations of unbound Cefquinome in serum and BAL fluids were determined by a validated LC-MS/SM method. The quantification limits for Cefquinome were 5ng/ml in plasma and 4ng/ml in BAL fluid. Urea concentrations were above the MIC-90 for at least 4h after injection. Since mycoplasmas are not sensitive for cephalosporins, Cefquinome cannot be used to treat them. The mean results of the left and the right lung half are very comparable, and confirm good reproducibility of the test method.

Results
Cefquinome unbound concentrations in plasma at 1, 2, 4, 8h post administration were 2762.6, 1518.5, 357.6 and 83.4 ng/ml, respectively. Twelve h after injection, plasma concentrations were below the quantification limit. The concentrations of Cefquinome in the right and the left BAL fluid, corrected for the respective urea dilution, are presented in Fig 1. At 8h post treatment, mean concentration of Cefquinome was approximately 10ng/ml. At 12h post treatment, the mean concentrations were 95.3 ng/ml and 54.4 ng/ml for the left and the right lung half.

Discussion
Concentrations of Cefquinome in bronchial secretions are above the MIC-90 for P. multocida, A. pleuropneumoniae, H. parasuis and S. suis for at least 4h after injection. Since mycoplasmas are not sensitive for cephalosporins, Cefquinome cannot be used to treat them. The mean results of the left and the right lung half are very comparable, and confirm good reproducibility of the test method.

The calculated elimination half-life (T1/2) of Cefquinome in plasma was approximately 1.12h, while T1/2 in BAL fluid in the left and right lung half were around 1.28h and 1.34h, respectively.

Table 1 MIC-90 of Cefquinome for different respiratory pathogens

<table>
<thead>
<tr>
<th>Bacteria</th>
<th>MIC-90 (ng/ml)</th>
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</thead>
<tbody>
<tr>
<td>Pasteurella multocida</td>
<td>60</td>
</tr>
<tr>
<td>Actinobacillus pleuropneumoniae</td>
<td>≤30</td>
</tr>
<tr>
<td>Haemophilus parasuis</td>
<td>≤30</td>
</tr>
<tr>
<td>Streptococcus suis serotype 1, 2</td>
<td>≤30</td>
</tr>
<tr>
<td>Streptococcus suis serotype 9</td>
<td>60</td>
</tr>
<tr>
<td>Bordetella bronchiseptica</td>
<td>32000</td>
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</tbody>
</table>

References