Horserace Betting Levy Board
Parnell House
25 Wilton Road
London, SW1V 1LW

Tel: 020 7333 0043
Fax: 020 7333 0041
Web: www.hblb.org.uk
Email: equine.grants@hblb.org.uk

Fat and foul, foal fiends: The role of fatty acid and cholesterol catabolism in the pathogenesis of Rhodococcus equi

Dr Sharon Kendall
Royal Veterinary College

Project in progress: Due in 2013

Prj: 748

On-going project: an overview

Rhodococcus equi is a respiratory pathogen of young foals and is the causative agent of “rattles”. It is a particular problem on foal breeding farms, but there is currently no vaccine for the disease. R. equi is an intra-cellular pathogen and, as in the closely related human pathogen Mycobacterium tuberculosis, it is thought to use fats as an energy source during infection. This proposal examines the roles of genes involved in fatty acid and cholesterol catabolism on the growth and pathogenesis of R. equi. The outcome of the work will be a greater understanding of the carbon sources used by R. equi during infection and will inform strategies for vaccine design. Additionally, the project uses genetic engineering to make strains with deletions in these genes. If these strains can be disabled such that they can no longer create disease, they may be suitable candidates for vaccine trials.