

Tuberculosis in guinea pigs



- Tuberculosis (TB) is a notifiable infectious disease → BSL-3 level
- Guinea pig widely accepted model for human infections with
 - *Mycobacterium bovis*
 - *Mycobacterium tuberculosis*
- TB induces granulomatous lesions in guinea pigs
- Guinea pig can also be model for latent infection
- Suitable for testing pre- and post exposure vaccines as well as diagnostics
- Pre-clinical trials

Study design: Tuberculosis in guinea pigs



- Adult guinea pigs
- Several groups, large numbers of animals possible



- Infection by intramuscular, aerosol or pulmonary inoculation
- Several challenge strains available



- *Mycobacterium bovis*
- *Mycobacterium tuberculosis*
- Clinical observations

Parameters: TB in guinea pigs

■ Bacteriology

- Bacterial culture
- Molecular diagnostics e.g. PCR, genotyping, whole genome sequencing

■ Immunology

- Serology

■ Pathology

- Macroscopically
- Microscopically: immune histopathology