

### ***Streptococcus suis* infections - Innate immunity in the porcine lung**

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*Streptococcus suis* (*S. suis*) is a pathobiontic bacterium endemic in domestic pigs. Virulent strains not only can initiate inflammatory processes in the porcine lung and brain, they also display zoonotic potential. Due to the high homology between human and porcine physiology, pigs are chosen as a biomedical model to investigate immune responses against these bacteria in the lung.

Established cell lines from nasal epithelia to the mucosal surfaces of lungs are used to study Type I and III interferon responses to infection with different *S. suis* serotypes in vitro. Furthermore, the influence of different virulent *S. suis* strains on functional activities of lung derived myeloid cells is investigated. Finally, the composition of different functional myeloid cell populations (monocytes, alveolar macrophages, dendritic cells) in lungs of common, untreated pigs regularly obtained from a slaughterhouse are characterized by flow cytometry and their cytokine pattern analyzed by PCR with regard to the observed pathological stage.

The data will provide a first overview of the interactions of *S. suis*, epithelial cells and functional myeloid cell populations in porcine innate immunity.

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