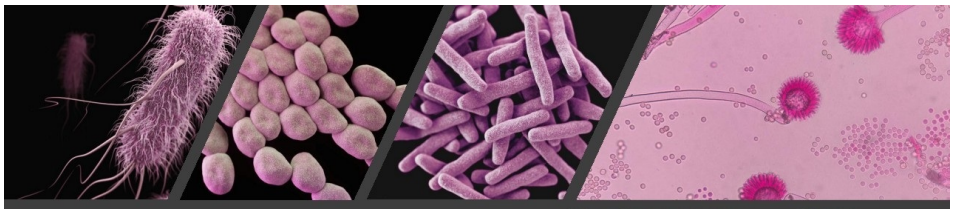

Abstract ID : **103**

Capsular polysaccharide promotes a stealth-like immunological state towards Mycoplasma mycoides

Content

Mollicutes are minute cell wall less bacteria encompassing important pathogens. We show that pathogenic *Mycoplasma mycoides* can switch expression of capsular polysaccharide (CPS) which creates phenotypic diversity and had dramatic repercussions on immune responses. For characterizing the immune responses, we employed the highly virulent wild-type GM12 as well as its engineered CPS-deficient mutant strain in a set of assays employing primary blood cells from its native ruminant host.
Primary blood cells stimulated with GM12 showed only very moderate effects on apoptosis as well as activation marker expression supporting an immunological stealth-like lifestyle. Interestingly, GM12 showed the capacity to survive and replicate inside monocyte-derived macrophages (MDMs), which fosters dissemination and persistence in the host. Stimulation with the CPS-deficient mutant strain, which exposes surface proteins including lipoproteins, increased apoptosis, strongly suppressed expression of major histocompatibility complex on antigen-presenting cells and induced secretion of several pro-inflammatory cytokines/chemokines which is a clinical hallmark in infected animals. Moreover, the CPS-deficient strain elicited apoptosis in MDMs. In conclusion, we showed that M. mycoides can switch the expression of CPS, which leads to different immunological trajectories paving the way for clinical disease, dissemination and persistence in the host.

Keywords

Mycoplasma mycoides subsp. capri, capsular polysaccharide, monocyte-derived macrophages (MDMs), Peripheral blood mononuclear cells (PBMCs), antigen-presenting cells (APCs), immune response, phenotypic diversity

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14

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