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ABSTRACT BOOK

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and production of a novel monoclonal antibody recognising ADGRE1 (F4/80) on porcine macrophages (Waddell et al., 2018).

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Cows selected for resistance to mastitis show contrasted immune responses compared to mastitis susceptible cows

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Mastitis remains an important disease in dairy farming nowadays. Genetic selection of animals for increased resistance to mastitis is

a relevant strategy to reduce the burden that mastitis entails on dairy cows. A divergent selection scheme based on somatic cell counts and clinical mastitis records was set-up on Prim'Holstein cows at the INRA experimental unit of Le Pin-au-Haras. In order to better define the mechanism underlying genetic resistance to mastitis, inflammatory challenges as well as immunization with a model antigen were performed on cows from these two different lines.

LPS was infused in one healthy udder quarter of each cow approx. 1 month post-partum. Milk was collected 4, 8, 12 and 24h post-infusion. Somatic cells recruited in milk were counted and the cytokines/chemokines CXCL8, IL-6 and IL-1 β were measured by ELISA. For adaptive response studies, cows were immunized 15 days before dry-off with ovalbumin and the response was evaluated 15 days after dry-off. Response to immunization was evaluated by measuring IFN γ and IL-17A and upon antigen stimulation in whole blood assays.

Although LPS triggered mastitis in all infused quarters, mastitis resistant cows (n= 16) showed decreased inflammatory response compared to more susceptible cows (n= 25) at t=8h post-infusion. No differences were observed between the two groups in terms of response to immunization.

Altogether, these results suggest that, in response to intra-mammary LPS challenge, cows selected for resistance to mastitis are better able to control the inflammatory response.