GP2 is selectively expressed by small intestinal CD103+CD11b+ cDC

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Publication date: 2017

Document Version
Publisher's PDF, also known as Version of record

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Citation (APA):

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A novel saponin adjuvant G3 modulates cytokine responses in equine PBMC

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The applicability of a new saponin adjuvant formulation (G3) was tested in cultures of equine peripheral blood mononuclear cells (eqPBMCs). When immunizing mice with a split influenza vaccine the inclusion of this adjuvant could enhance the antibody response, as well as induce CD8+CD3+ T-cells and a broad protection against influenza challenge when a diterpene was incorporated in the G3 formula (van de Sandt et al., Vaccine. 2014 32:5614–23.). Therefore, the present study aimed to evaluate cytokine responses to G3 alone or in combination with other immunostimulatory compounds. EqPBMC exposed to G3 for 18 h displayed an increased expression of the genes encoding IL-12p40 and IFN-γ (Th1), IL-23p19 (Th17), as well as IL-8 and IL-1β (pro-inflammatory). This G3-induced cytokine expression profile could be modified by co-culturing eqPBMC with G3 and known agonists to TLR5 (Flagellin) or TLR2/1 (Pam3CSK4). The combination of G3 with Pam3CSK4 increased the IFN-γ response compared to that induced by G3 or Pam3CSK4 alone. A similar increase in gene expression of IL-8 was indicated when G3 was combined with Flagellin. In contrast, the presence of G3 reduced the expression of the