



# Cross-reactivity of anti-human cytokine monoclonal antibodies used as a tool to identify novel immunological biomarkers in domestic ruminants

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**ABSTRACT.** Eleven commercially available PE-labeled anti-human (IL-1- $\alpha$ , IL-6, IL-8, TNF- $\alpha$ , IL-17A, IL-5, IL-10, IL-12 and IL-13) and anti-mouse (IL-10, TNF- $\alpha$ ) cytokine monoclonal antibodies (mAbs) were tested for cross-reactivity with cattle, goat, and sheep cytokines. Cross-reactivity was assessed by comparative analysis with the standard reactivity of the target species. Our data demonstrated that anti-human IL-1- $\alpha$ , IL-6, IL-8, IL-17A and IL-10 mAbs cross-react with all ruminant species tested. Anti-human IL-5 mAb showed a strong cross-reactivity with cattle and goat IL-5, while anti-human TNF- $\alpha$  mAb showed a selective cross-reactivity with goat TNF- $\alpha$ . No cross-reactivity with the ruminant cytokines was observed for anti-human IL-12 and IL-13

mAbs or for the two anti-mouse cytokine mAbs tested. The present study demonstrated the cross-reactivity of various anti-human cytokine mAbs with cattle, sheep, and goat cytokines, increasing the range of immunological biomarkers for studies in veterinary medicine.

**Key words:** Cytokines; Cross-reactivity; Human; Cattle; Goat; Sheep