

Pregnancy-associated glycoproteins (PAGs) concentrations during the post partum period in four non-pregnant cows



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Introduction

Pregnancy-associated glycoproteins (PAGs) are expressed in the superficial layer of the ungulate trophectoderm.

Molecular biology investigations showed that several PAG genes are present in the bovine genome and they share high sequence identity with each other (Green *et al.*, 2000).

In cattle, the detection of PAG (or PSPB) in maternal circulation is currently used as a method for pregnancy diagnosis at approximately day 30 after breeding or artificial insemination (AI) (Sasser *et al.*, 1986; Zoli *et al.*, 1992).



AIM

The aim of the present work was to follow the pregnancy-associated glycoprotein during the post partum period in cow.



Materials and Methods

- Four Holstein-Friesian cows of mixed age and parity were diagnosed as non-pregnant by ultrasonography and rectal exploration.
- Blood samples were collected from the coccygeal vein every 2 days during a stabling period of two months in the absence of males. Plasma was obtained by centrifugation (1500 x g for 15 min) immediately after collection and was stored at -20°C until assay.
- In all RIA systems, 67 kDa PAG preparation was used as tracer (labeled with ¹²⁵I) according to the Chloramine T method) and as standard.
- Five antisera AS#497, AS#706, AS#780, AS#809, and AS#Pool, were raised in rabbits against different PAG preparations according to the technique of Vaitukaitis *et al.* (1971).
- Plasmatic PAG concentration was measured by radioimmunoassay technique with some modifications (Ayad *et al.*, 2007).

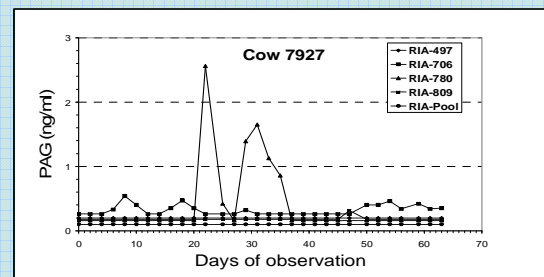
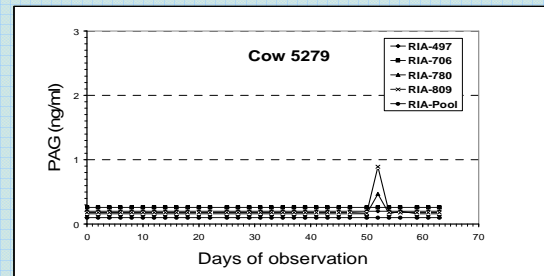
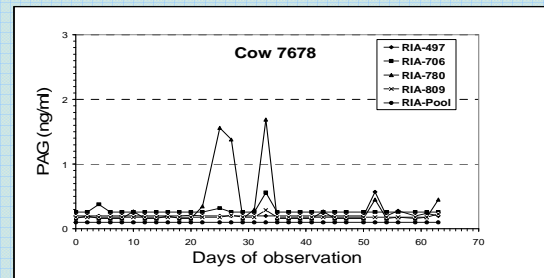
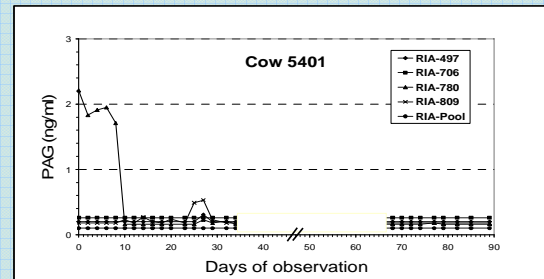


Conclusion

In conclusion, our data show differences between RIA systems when plasma issued from non pregnant females were tested over a long period of observation.



Results



In RIA-780 and RIA-809, we observed small peaks of PAG concentrations that reached 2.56 ng/ml and 0.89 ng/ml, respectively. These peaks lasted for duration longer than 3 days (two successive samples were positive). The other RIA systems gave values of PAG concentrations below the cut-off for pregnancy diagnosis (> 0.8 ng/ml) and remained always in the range of the non pregnant females.



References

Ayad *et al.*, *Reprod. Dom. Anim.*, 2007; Green *et al.*, *Biol. Reprod.*, 2000; Sasser *et al.*, *Biol. Reprod.*, 1986; Vaitukaitis *et al.*, *Clin. Endocrinol. Metab.*, 1971; Zoli *et al.*, *Biol. Reprod.*, 1992.