

Effect of vaccination on test outcome in different diagnostic ELISAs for *Actinobacillus pleuropneumoniae*

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Background and Objectives

Serotype specific serological tests are used to identify *Actinobacillus pleuropneumoniae* infected farms. However, the effect of vaccination on test results is unknown. This study evaluates the effect of vaccination on serological test results.

Materials and Methods

On a farm without clinical problems due to *A. pleuropneumoniae* and with an obligatory vaccination scheme on *A. pleuropneumoniae* due to commercial reasons, 14-weeks old pigs were selected and divided in three groups (10 animals per group).

Group 1	Negative control
Group 2	Coglapix® (Ceva Santé Animale)
Group 3	Porcilis APP® (MSD Animal Health)

Animals were vaccinated on day 1 and 29. Blood samples from day 1, 29 and 57 were tested in the Swinecheck® APP 1-9-11 ELISA, Swinecheck® APP 2 ELISA and Swinecheck® APP 5a,5b ELISA (Biovet) for serotyping and the APP-ApxIV Ab Test (IDEXX)

Results

In group 1 on day 57 5/10 animals tested positive in the ApxIV ELISA and all 10 animals tested negative in the three Biovet ELISA's. In group 2 on day 57 3/10 tested positive in the ApxIV ELISA, 6/10 in the serotype 1-9-11 Elisa and 0/10 in the serotype 2- and serotype 5a,5b Elisa. In group 3 on day 57 6/10 tested positive in the ApxIV Elisa, 10/10 in the serotype 1-9-11 Elisa, 3/10 in the serotype 2 Elisa and 0/10 in the serotype 5a,5b Elisa. Figure 1 to 3 show the individual test results for the serotype 1-9-11 and 2 and the ApxIV ELISAs.

Discussion and conclusion

The herd was obviously *A. pleuropneumoniae* positive: in all three groups some animals tested ApxIV positive. All positive animals were housed in the same pen, as the other half of the animals were housed in another pen.

However, all unvaccinated animals tested negative in serotype specific tests whereas several vaccinated animals developed antibody responses in some tests. Surprisingly, more animals tested positive in de Porcilis APP (subunit) group than in de Coglapix groep (bacterin). Likely this is due to an immunological reaction on vaccine compounds. The effect of the prevalent *A. pleuropneumoniae* remains unclear but vaccination likely influences serology. We conclude that serotype specific ELISA's are not useful as confirmation tests in vaccinated animals.

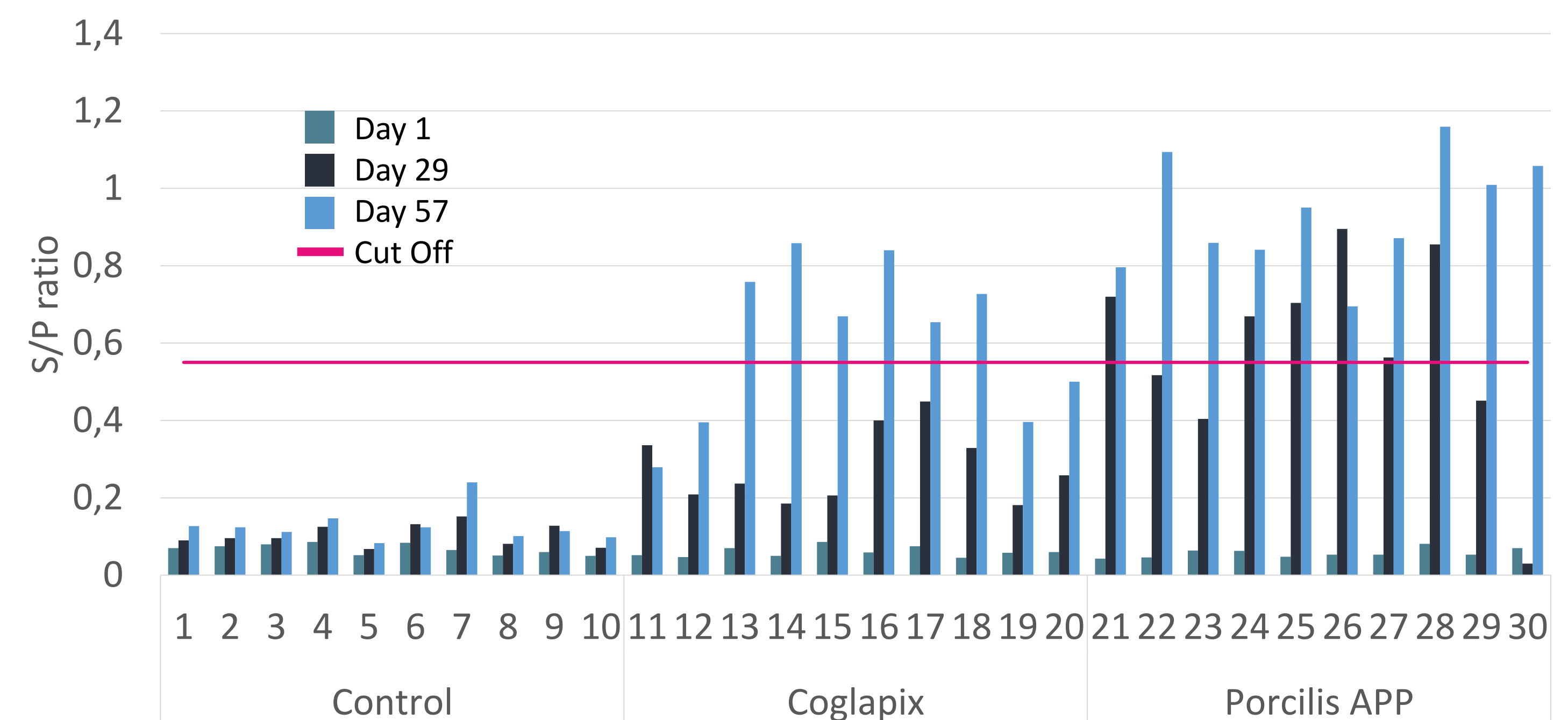


Figure 1, Swinecheck® APP 1-9-11 (Biovet)

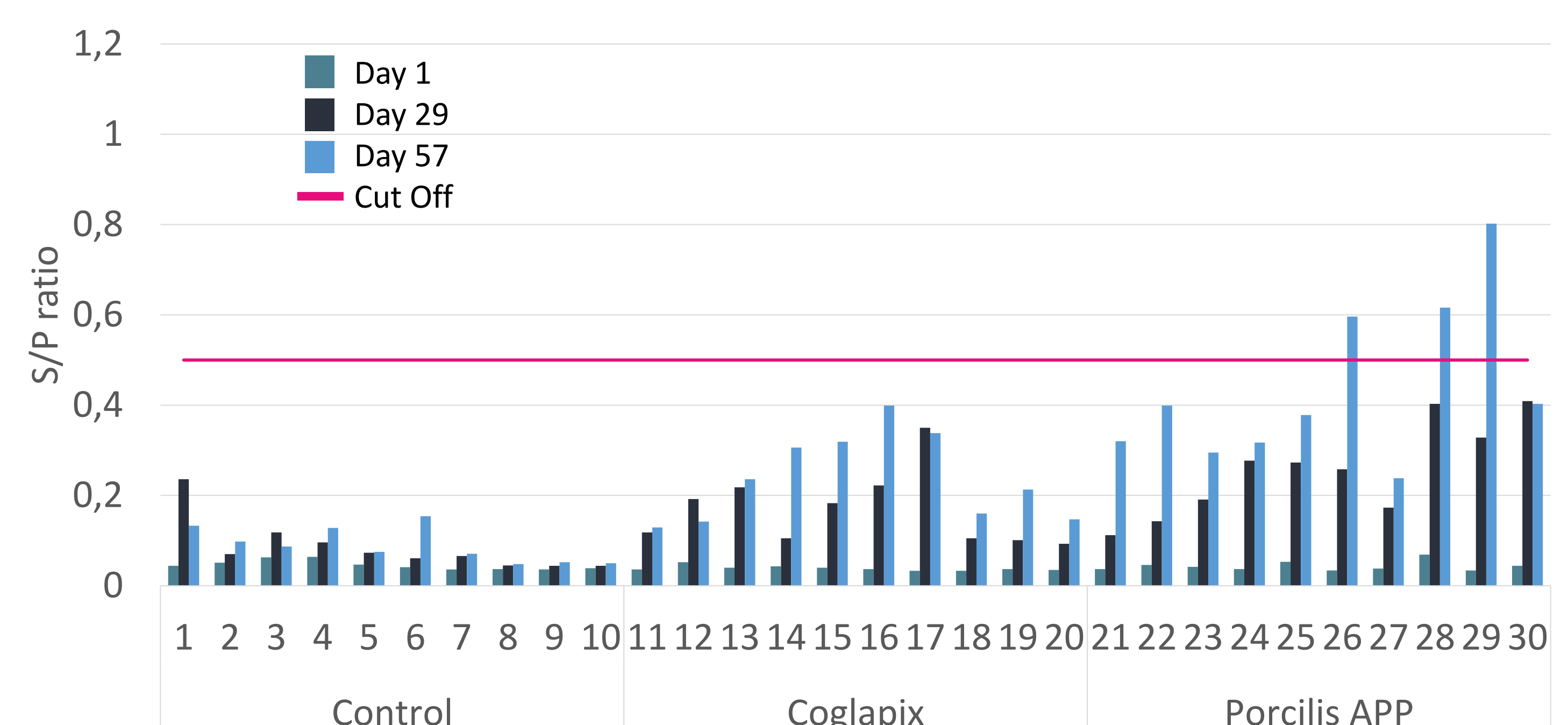


Figure 2, Swinecheck® APP 2 (Biovet)

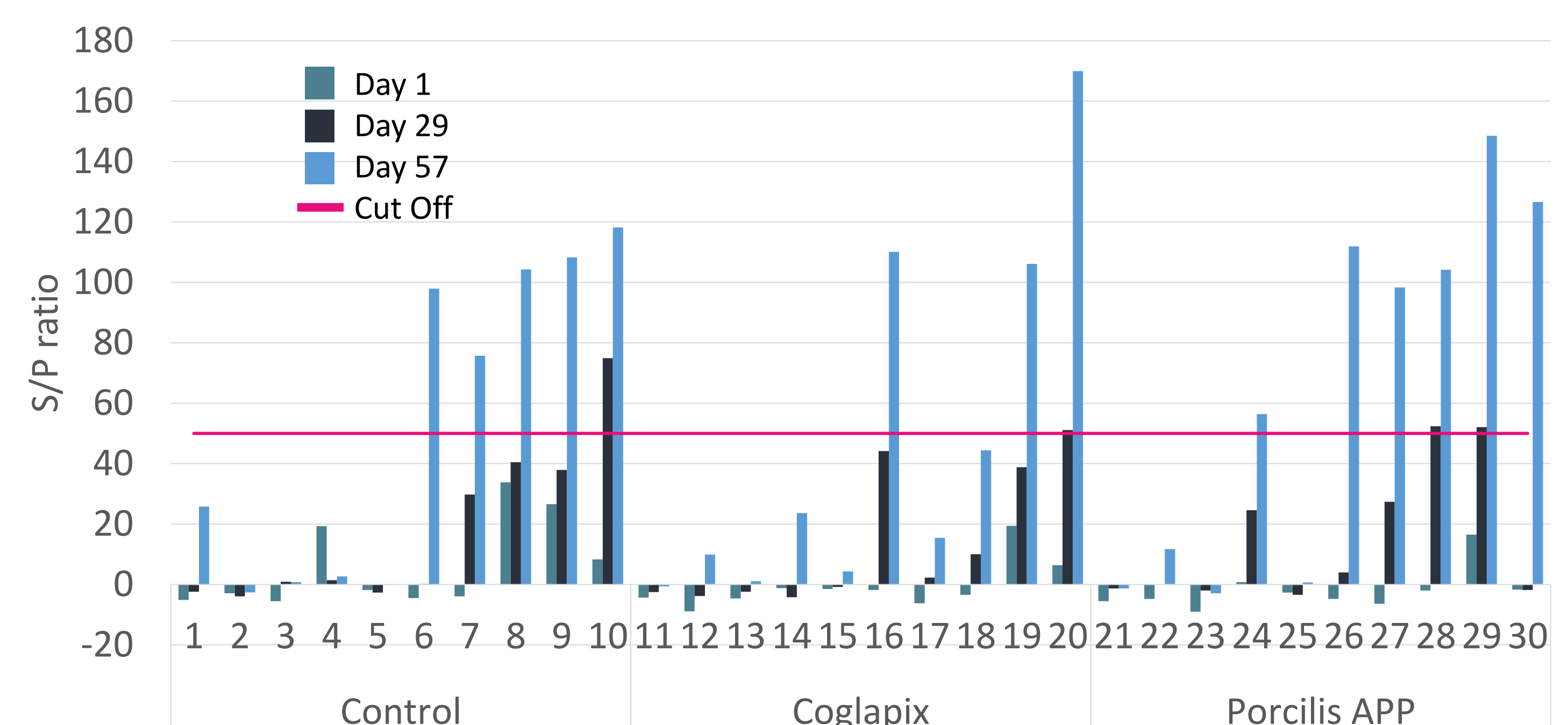


Figure 3, APP-ApxIV Ab Test (IDEXX)