



# Antibiotic-free hypothermic storage of boar semen in Androstar® Premium results in similar fertility compared to semen stored at 17°C in extender with antibiotic content

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## Introduction

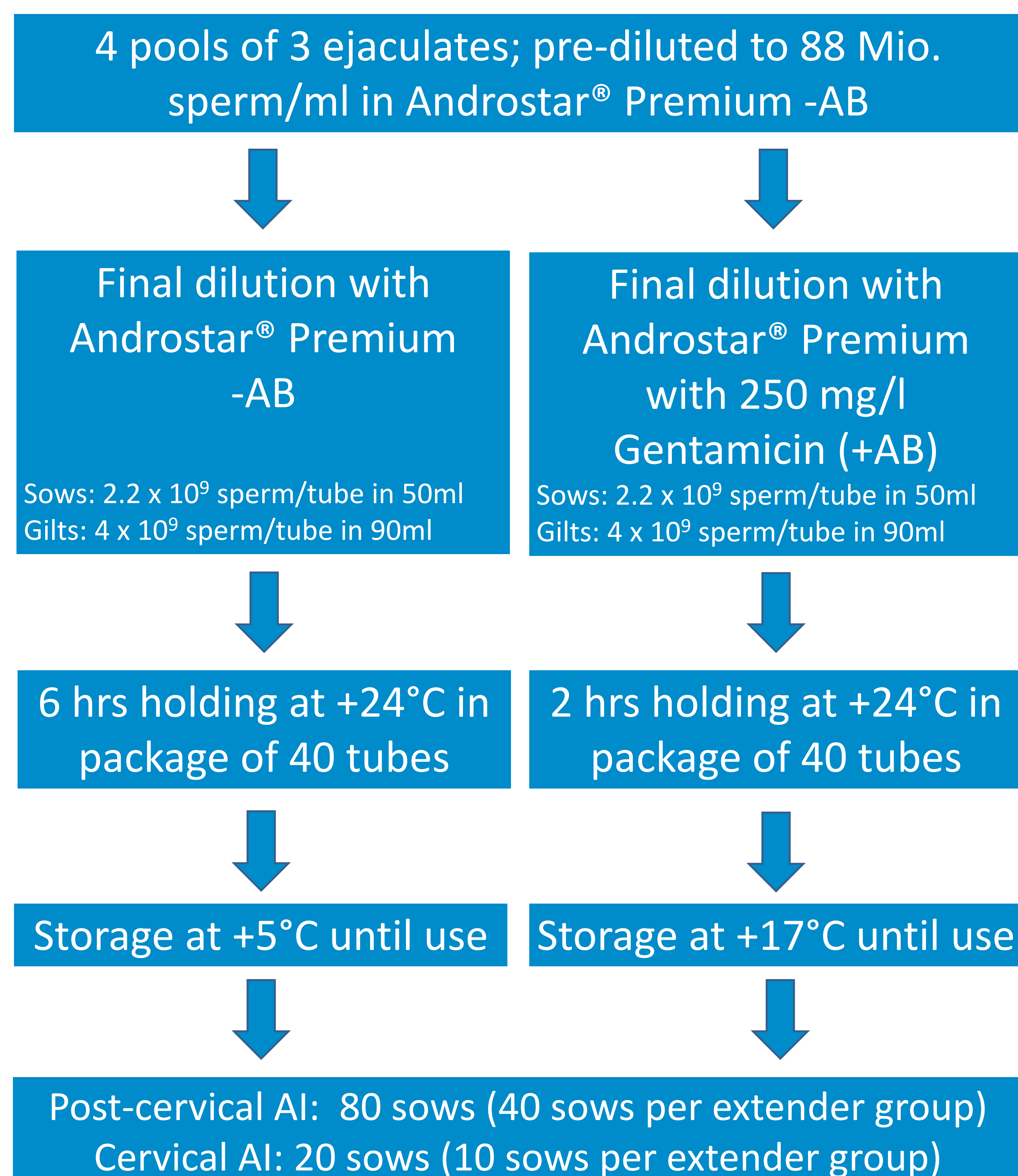
Worldwide, antibiotic resistance of bacteria in extended boar semen is increasing. The situation is favoured by overwhelming use of antibiotics together with bacterial contamination and

semen storage at a relatively high temperature (+17°C). This study tested a new extender, Androstar® Premium, designed for antibiotic-free storage of boar semen at +5°C.

## Material and Methods

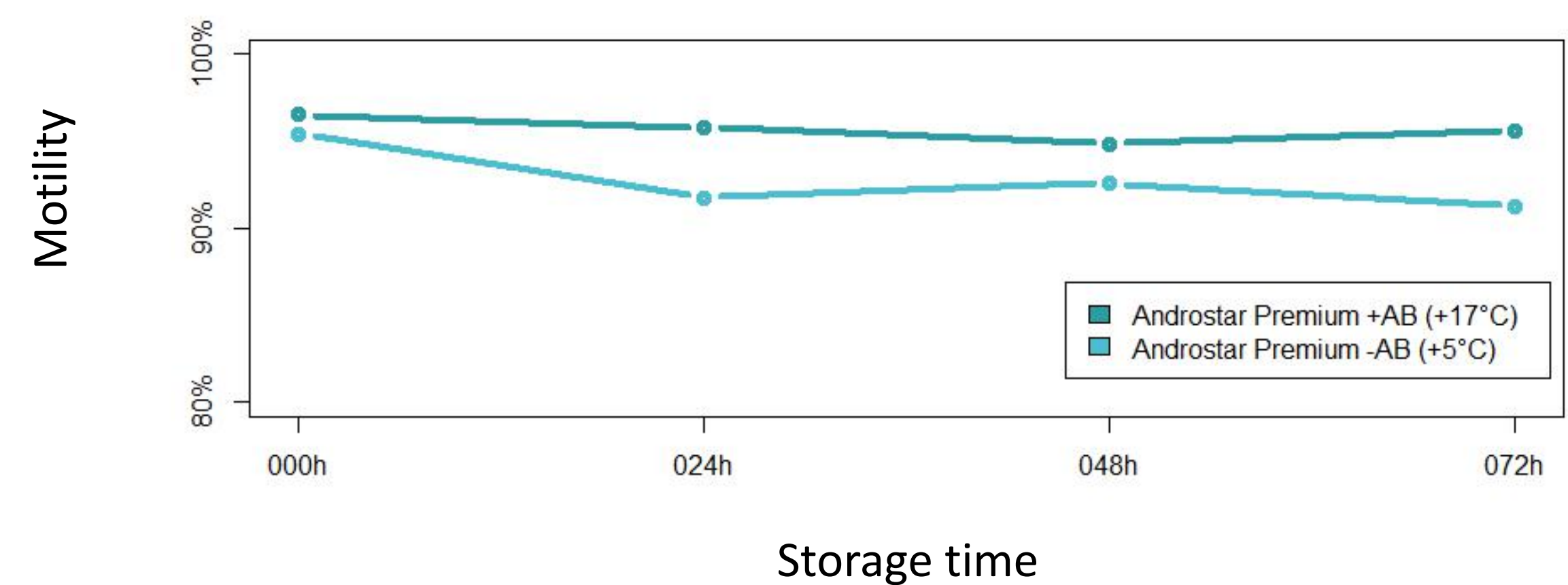
Four semen pools, each from three boars, were diluted split-sample with either Androstar® Premium extender containing Gentamicin (+AB) and stored at +17°C or with Androstar® Premium without antibiotics (-AB) and subsequently stored at +5°C. Semen doses for post-cervical insemination of sows had volumes of 50 ml containing  $2.2 \times 10^9$  sperm and doses for cervical AI of gilts had 4 billion sperm in 90 ml.

Semen tubes with Androstar® Premium -AB extender were held in packages of 40 tubes for 6 h at +24°C and were then stored at +5°C for up to 48 hrs. Tubes with Androstar® Premium +AB diluted semen were held for 2 h at +24°C and then kept at +17°C for up to 48 hrs. In each extender group 40 sows and 10 gilts were inseminated 8-12 hrs after first oestrus signs and AI was repeated in 8-12 hrs intervals until the end of oestrus.

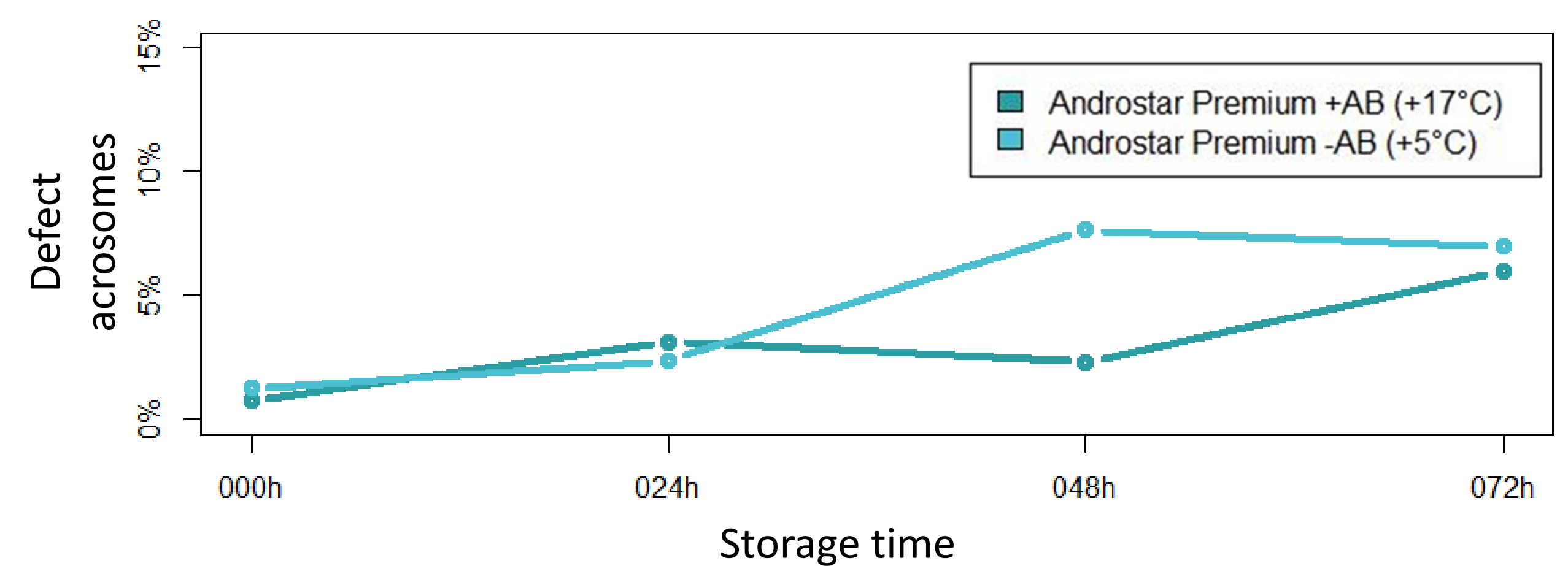


## Results

Total motility of sperm stored in either Androstar® Premium (-AB) at +17°C or Androstar® Premium (-AB) at +5°C (n=4 pools)



Acrosome status of sperm stored in either Androstar® Premium (-AB) at +17°C or Androstar® Premium (-AB) at +5°C (n=4 pools)



Semen motility and percent defect acrosomes did not differ significantly ( $p > 0.05$ ) between extenders

Fertility results after AI with semen stored in either Androstar® Premium (+AB) at +17°C or Androstar® Premium (-AB) at +5°C

	Non-Return-Rate (%)	Farrowing rate (%)	Piglets born alive (n)	Piglet index (n)
Androstar® Premium +AB (+17°C) n=50	90.0	86.0	14.5	1244.4
Androstar® Premium -AB (+5°C) n=50	98.0	92.0	13.8	1266.0

NRR ( $p=0.21$ ), farrowing rate ( $p=0.59$ ) and number of piglets born alive ( $p=0.27$ ) did not differ significantly

## Conclusion

In conclusion, antibiotic-free boar semen preservation at +5°C and subsequent AI with Androstar® Premium extender without AB results in adequate semen quality, high pregnancy rates and similar piglet numbers compared to semen preservation at +17°C in extender with antibiotic content.