Effect of Monoclonal Antibodies to Boar Sperm on Conception Rate and Litter Size

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Abstract

Two monoclonal antibodies-Hmabs and Tambs-against boar spermatozoa were produced. The monoclonal antibodies were used to immunize two groups of ten gilt and a third, control group of ten gilt was injected with phosphate buffered saline (PBS). The Conception Rates (CR) were 100%, 30% and 50% for control, Hmab and Tmab respectively. The litter sizes were 8.4±1.71, 5.0±1.0 and 5.4±1.14 for the control, Hmab and Tmab group respectively. Immunization with both Hmab and Tmab significantly reduced CR (P<0.001), the reduction in CR was significantly lower than that produced by Tmab (P<0.01). The Hmab and Tmab significantly reduced litter size (P<0.001). There was no significant difference in litter sizes in the Hmab and Tmab treatments (P>0.05). Monoclonal antibodies to boar sperm may become candidates for contraception for population control in humans.

Key words: Sperm, monoclonal antibodies, conception rate, litter size.