The application of immune serum is one of the most efficient methods used formerly in the protection of raised piglets'/weaners' health. The objective of the study was to determine specific antibody response during hyperimmunization of fattengers with a self-prepared subunit vaccine, and to propose production method of immune serum against Gram-negative bacteria antigens. The vaccine was administered every two weeks, 4 times. Individual and pooled serum samples were assayed for IgM, IgG and IgA antibodies against *Histophilus somni* recombinant Hsp60, *H. somni* rOMP40 and *Pasteurella multocida* LPS. Additionally, total serum IgG and haptoglobin concentrations were measured.

Two weeks after the first vaccination IgM antibody raised significantly against *H.s.* rOMP40 and LPS, whereas after 4 weeks it increased against rHsp60 antigens. Anti-LPS IgM antibody raised up stepwise till the end of the observation, but IgM antibody against *H.s.* rHsp60 and *H.s.* rOMP40 decreased in further samplings. A significant raise in IgG class *H.s.* rHsp60-antibody was found 4 weeks after the first immunization and a similar raise against two remaining antigens after 6 weeks. The intensity of the reaction increased till the end of the experiment. The raise in IgA antibody level was observed only for *H.s.* rHsp60 antigen. Clinically observed, proper animal health and welfare were confirmed by haptoglobin concentration, which remained in physiological range. At least 4 booster doses were necessary to obtain hyperimmune serum containing a high level of antibodies against examined antigens. The number of immunizations influenced response profiles for specific IgM, IgG, IgA antibodies.

**Key words:** swine, recombinant outer membrane proteins, antibody response, hyperimmune serum, subunit vaccine

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**Production and characterization of swine hyperimmune serum against recombinant, common antigens of Gram-negative outer membrane bacteria**

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**Abstract**

The application of immune serum is one of the most efficient methods used formerly in the protection of raised piglets'/weaners' health. The objective of the study was to determine specific antibody response during hyperimmunization of fattengers with a self-prepared subunit vaccine, and to propose production method of immune serum against Gram-negative bacteria antigens. The vaccine was administered every two weeks, 4 times. Individual and pooled serum samples were assayed for IgM, IgG and IgA antibodies against *Histophilus somni* recombinant Hsp60, *H. somni* rOMP40 and *Pasteurella multocida* LPS. Additionally, total serum IgG and haptoglobin concentrations were measured.

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