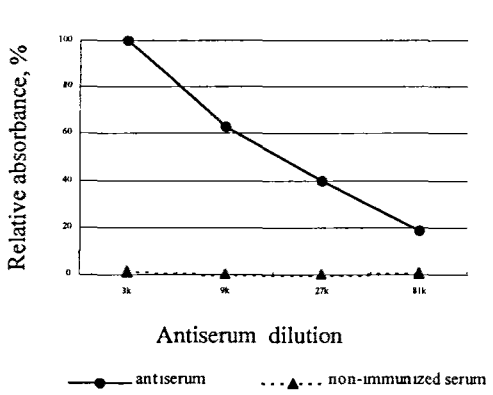
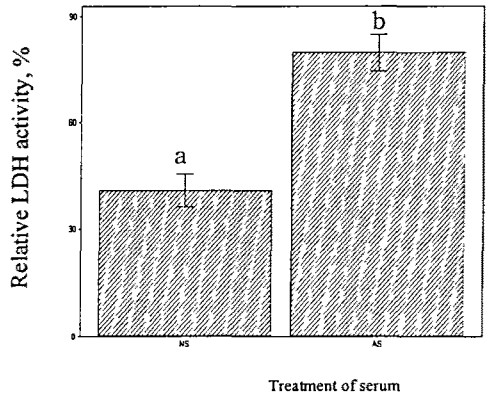
assay(ELISA), and the reactivity could be detected at dilutions in excess of 1:81,000. Antisera showed very high reactivity binding with APM proteins in ELISA but showed very low reactivity binding with proteins isolated from heart, kidney, liver, muscle or spleen. Because there may be different kinds of proteins or APM protein quantities. Tissue specificity of the antisera was reconfirmed by Western immunoblotting using anti-sheep immunoglobulin G-alkaline phosphatase conjugate as a secondary antibody. Treatment of antisera on confluent Sprague-Dawley rat adipocytes in culture caused lysis of the cells and release of cytosolic lactate dehydrogenase whereas adipocytes treated with non-immunized serum maintained their integrity.





Paper 2. Korean J. Biomed. Lab. Sci., 4(1):57-63, 1998.

Production of Polyclonal Antibodies Specific to Porcine Adipocyte Plasma Membrane Proteins in Sheep

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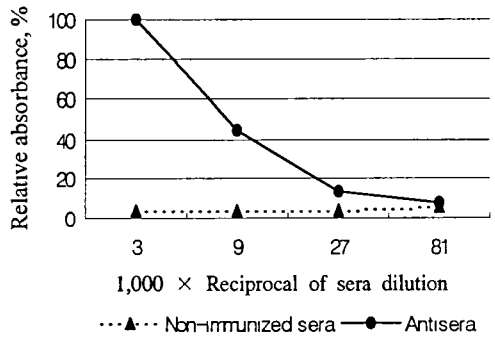
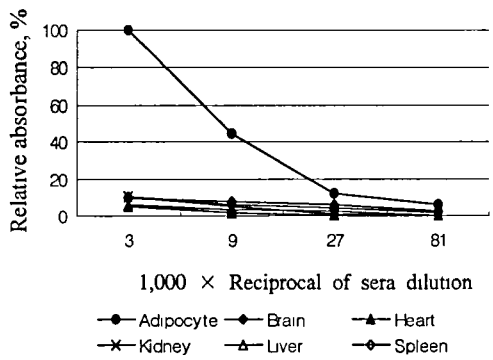
ABSTRACT

The objectives of this study were to produce polyclonal antibody to adipocyte plasma membrane (APM) proteins isolated from pig, and to investigate its tissue

specificity. Plasma membrane proteins from adipocyte, brain, heart, kidney, liver, and spleen were isolated using a self-forming Percoll gradient. Sheep (40kg) was immunized three times at three week interval with the purified APM proteins. Blood was taken from non-immunized sheep (NS) and from immunized sheep at 10 (AS-1), 12 (AS-2), and 14(AS-3) days after the third immunization. Antisera titers and cross-reactivity against other tissues were determined by enzyme-linked immunosorbent assay (ELISA). Antisera reacted strongly to APM proteins showing detectable amounts of antibody at 1:81,000 dilution. And antisera showed much stronger reactivity to APM proteins than any other tissue plasma membrane proteins. Furthermore, tissue specificity of antisera against APM was reconfirmed by immunoblotting using anti-sheep immunoglobulin G-horseradish peroxidase conjugate as a secondary antibody. Antisera to APM proteins showed adipocyte specificity compared with other tissues. In conclusion, polyclonal antibody against APM proteins isolated from pig was developed successfully in our laboratory, and these antisera showed tissue specificity with APM.





Paper 3. J. Anim. Sci. & Technol. (Kor.) 39(6):669-674. 1997.

Development of Polyclonal Antibody to Adipocyte Plsma Membrane Proteins Isolated from Korean Native Cattle

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