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Third Belgian Workshop on Animal Endocrinology
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The third Belgian Workshop on Animal Endocrinology has been held in the University of Namur, FUNDP, in October 2001. The special topics of the workshop has been focused on reproduction. Optimizing reproductive performance in breeding populations of economically important animals, including aquaculture species, is of major importance for more efficient animal production. In species managed for the production of food, suppression of reproductive cycles, sterilization or production of monosex populations may be desirable. New knowledge is needed to facilitate implementation of optimum integrated animal production systems that will contribute to sustainability of the animal production unit. This information will control or reduce animal production costs, provide product cost benefits to consumers, and may ultimately lead to increased productivity from fewer animals, thereby conserving natural resources and enhancing the environment. Research techniques developed to foster and manage animal reproductive phenomena are key to future application of biotechnologies. In the past decade, there have been many impressive advances in a number of scientific disciplines that have led to the discovery and development of exciting new approaches that offer the potential to improve reproduction efficiency of animal farming. The objective of this workshop has been to present some of these new developments.

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PURIFICATION AND CHARACTERIZATION OF A PREGNANCY-ASSOCIATED GLYCOPROTEIN (OVPAG-6) FROM SHEEP PLACENTA REMOVED BETWEEN 66 TO 100 DAYS OF GESTATION

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The identification of antigens immunologically related to the bovine pregnancy-associated glycoprotein

(boPAG-1) or bovine pregnancy specific protein (bPSP-B) in the peripheral circulation of pregnant ewes encouraged the isolation and partial purification of pregnancy-associated glycoproteins in the ovine species. Recently, molecular biology studies identified 9 different molecules of pregnancy-associated glycoproteins in the sheep placenta (Xie *et al.*, 1997b). However, biochemical studies characterized only four different molecules (Xie *et al.*, 1997a) and only one molecule gave the same N terminal sequence in the two approaches.

The aim of this study was to isolate and to characterize PAGs from ewe placenta. Here we describe for the first time the purification of the protein identified as ovPAG-6 in molecular biology studies (Accession number O02726). The procedure was realized on placenta removed at 66 to 100 day of gestational stage. The tissue was washed with NaCl 0.9% and stored at -20°C. After thawing the tissue was extracted in phosphate buffer, then the proteins were submitted to acidic and ammonium sulfate precipitations, anion exchange chromatography (DEAE), gel filtration, cation exchange (CM ceramic), and chromatofocusing (mono P). The immunoreactivity was monitored by heterologous RIA that used caprine PAG_{55+62} and caprine PAG_{55+59} (Conzalez *et al.*, 1999) and the ovine PAG (Ranilla *et al.*, 1994).

In the crude extract, the PAGs represent 3.2% of the total proteins. After DEAE, gel filtration and CM columns the active fractions were tested in SDS-PAGE, Western blotting, 2D-electrophoresis and transferred onto PVDF membranes for sequencing. One of the CM immunoreactive peaks from the fractions eluted with 0.04 M NaCl DEAE gave single major stained bands on SDS-PAGE with apparent molecular masse of 58 kDa. Two dimensional gel electrophoresis showed that this major band was composed of several proteins (at least four), with acidic pIs ranging from 4.0 to 5.8 (5.8, 5.6, 5.0 and 4.0). The microsequencing of the spot corresponding to MM of 58 kDa and and pI 5.6 revealed the **RGSNLTIHPLRNTKS** sequence, characteristic of the ovPAG-6 (Xie *et al.*, 1997b). This report is the first to describe the biochemical purification and the characterization of ovPAG-6.

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PEPSINOGEN AND PROGESTERONE CONCENTRATION DURING PREGNANCY IN SOWS

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During pregnancy progesterone stimulates the secretion of proteins and other molecules that support the developing conceptus. In this way, many proteins or enzymes appear or increase in maternal blood circulation during pregnancy. Pregnancy is also claimed to be associated with a wide variety of physiological and biochemical changes in virtually all the organ systems and particularly the entire length of the gastrointestinal tract (Singer, Brandt, 1991). Among the enzymes secreted into the lumen of digestive tract, pepsinogen can be also found in blood in small but measurable quantity, which is relatively constant in a given individual. The aim of this study was to investigate the relationships between pregnancy and gastrointestinal enzyme by analysing progesterone and pepsinogen levels during pregnancy.

The experiment was carried out in the experimental farm of the faculty of Veterinary Medicine of Liege (Belgium). Belgian pietrain (n=3) from 12 to 16 months old and about 130 kg body weight were controlled daily for oestrus behaviour and were artificially inseminated. The day of the insemination was called day 0. Blood samples were collected in the same time in jugular vein into heparinized vacutainer tubes at day 0, 28, 42, 56, 70, 86, and 100. Plasma obtained by centrifugation (15