

1. Institution

Institute of Animal Reproduction and Food Research of Polish Academy of Sciences, Division of Reproductive Endocrinology and Pathophysiology, Laboratory of Hormonal Action Mechanisms, ul. Tuwima 10, 10-747 Olsztyn, Poland

2. Principal investigator and contact person

Adam J. Ziecik (ziecik@pan.olsztyn.pl)

3. Key personnel

Name	Research Tasks	e-mail
Agnieszka Blitek, associate prof.	endometrial receptivity markers and role of HoxA proteins in pig reproduction	agas@pan.olsztyn.pl
Gabriel Bodek, assistant prof.	culture and immortalization of endometrial model of endometrium <i>in vitro</i>	gbodek@pan.olsztyn.pl
Monika Kaczmarek, assistant prof.	potential paramount elements of embryo-maternal cross-talk during pregnancy in the pig	moka@pan.olsztyn.pl
Agnieszka Waclawik, assistant prof.	lipid signaling system in maternal recognition of pregnancy in pigs	waclawik@pan.olsztyn.pl
Jolanta Kiewisz, Ph.D. student	transcriptomics, Wnt, β -catenin, E-cadherin gene expression in uterine and conceptus tissues	kiewisz@pan.olsztyn.pl

4. Research profile

The laboratory investigate mechanisms of luteolysis inhibition, maternal recognition of pregnancy and embryo-uterine interactions during the peri-implantation period in pigs. Recently conducted projects: 1. Universal model for study of endometrium-blastocyst interactions *in vitro*; 2. The role of Wnt, β -catenin and E-cadherin genes in endometrial tissue during peri-implantation period in pigs; 3. Role of embryo signals in activation of prostaglandin synthesis enzymes and prostaglandin receptors in the endometrium; 4. HoxA protein as a marker of endometrial receptivity during embryo implantation in pigs; 5. Participation of seminal plasma in regulation of prostaglandin synthesis in the porcine oviduct and uterus.

5. Key technologies and tools

Genomics, transcriptomics, proteomics, modulation of gene expression by siRNA, endometrial cells and tissue culture

6. Selected publications (max. 5)

Ziecik AJ, Blitek A, Kaczmarek MM, Waclawik A, Bogacki M. 2006. Inhibition of luteolysis and embryo-uterine interactions during the peri-implantation period in pigs. *Reproduction Suppl.* 62,147-61.

Waclawik A, Rivero-Muller A, Blitek A, Kaczmarek MM, Brokken LJ, Watanabe K, Rahman NA, Ziecik AJ. 2006. Molecular cloning and spatio-temporal expression of prostaglandin F synthase and microsomal prostaglandin E synthase-1 in porcine endometrium. *Endocrinology* 147 (1), 210-221.

Waclawik A., Ziecik AJ. 2007. Differential expression of prostaglandin synthesis enzymes in conceptus during periimplantation period and endometrial expression of carbonyl reductase/prostaglandin 9-ketoreductase in the pig. *J Endocrinol* 194, 499-510.

Kaczmarek MM, Waclawik A, Blitek A, Kowalczyk AE, Schams D, Ziecik AJ. 2008. Expression of the vascular endothelial growth factor-receptor system in the porcine endometrium throughout the estrous cycle and early pregnancy. *Mol Reprod Dev* 75(2), 362-372.

Kaczmarek M M, Blitek A, Kowalczyk A E, Kiewisz J, Waclawik A, Ziecik A J. 2008. Role of integrins, extracellular matrix proteins and growth factors during early implantation in pigs. *Med Weter* 64, 541-545.