

1. Institution

Department of Animal Physiology, Faculty of Biology, University of Warmia and Mazury in Olsztyn, Oczapowski Street 1A, 10-719 Olsztyn-Kortowo, Poland

2. Principal investigator and contact person

Bozena Szafranska (szafran@uwm.edu.pl)

3. Key personnel

Name	Research Tasks	e-mail
Grzegorz Panasiewicz, assistant prof.	biodiversity of the PAG family: trophoblastic cDNA cloning of porcine Pregnancy-Associated Glycoprotein family (pPAG); gDNA amplicons as potential PAG markers; chorionic (trophoblastic/trophectodermal) explant culture	panasg@uwm.edu.pl

4. Research profile

The laboratory is focused on the identification and characterization of the major secretory PAG forms (placental aspartyl proteinases) in the pig and some wild artiodactyls, especially during peri-implantation period and early pregnancy. Molecular diversity of chorionic PAG family concerns: cDNA cloning and sequencing, gDNA amplicon polymorphism, N-glycodiversity of protein forms secreted in vitro and protein-protein interactions (blastocyst-endometrial) as possible roles of this multiple family. Profitable applications are related to the detection of PAGs in the blood of pregnant domestic and wild species. Other studies in the laboratory are focused on the application of the PAG gDNA amplicons to develop potential novel genetic markers for early animal pre-selection.

5. Key technologies and tools

Genomics, transcriptomics, proteomics, chorionic (trophoblastic/trophectodermal) explants culture, N-glycosylation pattern, glycodiversity, protein-protein interactions (blastocyst-endometrial).

6. Selected publications (max. 5)

Szafranska B., Dabrowski M., Panasiewicz G., Majewska M., J-F. Beckers., Gizejewski Z. 2005. Chorionic mRNA expression and N-glycodiversity of pregnancy-associated glycoprotein family (PAG) of the European bison (*Bison bonasus*). *Anim. Reprod. Sci.*, 88: 225–243.

Szafranska B., Panasiewicz G., Majewska M. 2006. Biodiversity of multiple pregnancy-associated glycoprotein family (PAG): gene cloning and chorionic protein purification in domestic and wild eutherians (*Placentalia*) – a review. *Reprod. Nutr. Dev.*, 5: 481–502.

Szafranska B., Panasiewicz G., Majewska M., Romanowska A., Dajnowiec J. 2007. Pregnancy-associated glycoprotein family (PAG) – As chorionic signaling ligands for gonadotropin receptors of cyclic animals. *Anim. Reprod. Sci.* 99 (3–4): 269–284.

Panasiewicz G., Majewska M., Romanowska A., Dajnowiec J., Szafranska B. 2007. Radiocompetition of secretory pregnancy-associated glycoproteins as chorionic ligands with luteal and uterine gonadotrophin receptors of pregnant pigs. *Anim. Reprod. Sci.* 99 (3–4): 285–298.

Majewska M., Panasiewicz G., Szafranska B., Gizejewski Z., Majewski M., Borkowski K. 2008. Cellular localisation of the pregnancy-associated glycoprotein family (PAGs) in the synepitheliochorial placenta of the European bison. *Gen. & Comp. Endocrinol.* 155 (2): 422–431.