

1. Institution

Poznan University of Life Sciences, Faculty of Animal Science and Biology,
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2. Principal investigator and contact person

Dorota Lechniak (lechniak@jay.up.poznan.pl)<http://jay.au.poznan.pl/~lechniak/>

3. Key personel

Name	Reserach tasks	email
Ewelina Warzych-Plejer, assistant professor	IVM, IVF, gene expression, apoptosis, metabolomics	ewarzych@jay.au.poznan.pl
Jaroslav Sosnowski, assistant professor	spermatogenesis, immunohistochemistry, histone modification, cytogenetics	jarys@jay.au.poznan.pl
Emilia Pers-Kamczyc, PhD- stud.	IVM, IVF, cytogenetics, gene expression, immunohistochemistry	emiper@jay.au.poznan.pl
Piotr Pawlak, PhD-stud.	IVM, gene expression in porcine oocytes, cytogenetics	piotrekpawlak@onet.eu

4. Research profile

Our investigation focuses on three main topics: 1) quality assessment of bovine and porcine oocytes (effect of IVM media composition, donor feeding and puberty) 2) quality assessment of bovine blastocyst produced in vitro (effect of IVM media composition and timing of the first zygotic cleavage) 3) histone modification, chromosome recombination and pairing during meiosis

5. Key technologies and tools

In vitro maturation (cattle, pig), in vitro embryo culture (cattle) gene expression (real time PCR), immunohistochemistry, cytogenetics (FISH), apoptosis detection (Tunel), differential staining of embryonic cells, synaptonemal complexes analysis in light, fluorescence and electron microscopy

6. Selected publications (max 5)

1. D.Lechniak, E. Warzych, E. Pers-Kamczyc, J. Sosnowski, P. Antosik, J. Rubes (2007) Gilts and sows produce similar rate of diploid oocytes in vitro whereas the incidence of aneuploidy differs significantly. Theriogenology 68(5): 755-762.
2. E. Warzych, J. Peippo, D. Lechniak. (2007) Supplements to in vitro maturation media affect the production of bovine blastocysts and their apoptotic index but not the proportions of matured and apoptotic oocytes. Animal Reproduction Science 97(3-4); 334-343
3. E. Warzych, C.Wrenzycki, J.Peippo, D.Lechniak. (2007) Maturation medium supplements affect transcript level of apoptosis and cell survival related genes in bovine blastocysts produced *in vitro* Molecular Reproduction Development 74(3): 280-289
4. Rho GJ, Coppola G, Sosnowski J, Kasimanickam R, Johnson WH, Semple E, Mastromonaco GF, Betts DH, Koch TG, Weese S, Hewson J, Hayes MA, Kenney DG, Basrur PK, King WA. (2007) Use of somatic cell nuclear transfer to study meiosis in female cattle carrying a sex-dependent fertility-impairing X-chromosome abnormality. Cloning Stem Cells. 9(1):118-129.
5. E. Jourdey, D. Lechniak, J. Petrik, WA. King (2003) Expression of growth hormone and its transcription factor, Pit-1, in early bovine development. Molecular Reproduction Development 64(3): 275-28