

**PROFIL BADAWCZY**

1. Hormonalna regulacja funkcji rozrodczych u świni.
2. Rola i mechanizm działania prolaktyny w jajniku świni.
3. Hormonalna i środowiskowa regulacja procesów rozrodczych u ryb.
4. Mechanizm działania fitoestrogenów (genisteiny, daidzeiny, biochaniny A) w jajniku świni.
5. Mechanizm działania i degradacji 2,3,7,8-tetrachloro-dibenzo-p-dioksyny (TCDD). Znaczenie receptora węglowodorów aromatycznych (AhR) w regulacji funkcji jajnika.
6. Mechanizm ochronnego działania tamoksyfenu w jajniku szczurów z indukowanym nowotworem i poddawanych chemioterapii.

**ORYGINALNE ARTYKUŁY NAUKOWE (od 1993 roku)**

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## PRACE PRZEGLĄDOWE

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## ROZDZIAŁY W SKRYPTACH I PODRĘCZNIKACH

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## GRANTY (od 1993 roku)

### Kierownik projektów badawczych

The role of protein kinases in the prolactin mechanism of action in luteal and theca cells during the early luteal phase of pigs, State Committee for Scientific Research, Poland, 1998-2000.

Interactions between the prolactin and aryl hydrocarbon receptor systems in the female. New Research Council Twinning Program, USA; 2003-2004.

Molecular mechanism of phytoestrogen action in porcine granulosa cells, Komitet Badań Naukowych, State Committee for Scientific Research, 2003-2005.

Rola i mechanizm działania estrogenów środowiskowych w komórkach ziarnistych pęcherzyka jajnikowego świni, State Committee for Scientific Research, Poland, 2006-2007.

The role of aryl hydrocarbon receptor in the regulation of the ovary in pigs, State Committee for Scientific Research, Poland, 2007-2009.

The effects of environmental estrogens on the activity of steroidogenic enzymes in granulosa cells of the pig ovary, Ministry of Science and Higher Education, Poland, 2011-2012.

Interactions between genistein and 2,3,7,8-tetrachlorodibenzo-p-dioxin in the regulation of the ovarian granulosa cell functions in the pig, Ministry of Science and Higher Education, Poland, 2011-2013.

Physiological and toxicological aspects of the aryl hydrocarbon receptor (AhR) activation in the regulation of granulosa cell function in pigs, National Science Centre, Poland, 2013-2016.

The protective mechanism of tamoxifen action in the ovary during chemotherapy, National Science Centre, Poland, 2016-2021.

### **Wykonawca/opiekun**

Effect of temperature-light regime manipulation on out-of-season spawning of yellow perch, Ohio Sea Grant College Program, 1993-1994.

Effects of ontogenesis and environmental factors on testicular function in yellow perch, United States Environmental Protection Agency, 1994-1996.

Effect of organochlorine xenobiotics on ovarian steroidogenesis in yellow perch, Lake Erie Protection Fund, 1995-1996.

The expression of aryl hydrocarbon receptor in the reproductive system of female pigs, Ministry of Science and Higher Education, Poland, 2009-2010.

Comparative analysis of NGS-identified genes induced by TCDD in hamster and porcine granulosa cells, National Science Centre, Poland, 2016-2018.

Molecular and bioinformatic analysis of interactions between dioxins different in their toxicity (DiCDD, TCDD) and enzymes of CYP1 family in porcine granulosa cells, National Science Centre, Poland, 2016-2018.

Molecular aspects of the effects of hormonally active chemicals on ovarian folliculogenesis in neonatal pigs, National Science Centre, Poland, 2016-2019.

### **Promotorstwo dysertacji doktorskich**

Anna Nynca. 2007. Rola i mechanizm działania estrogenów środowiskowych w komórkach ziarnistych pęcherzyka jajnikowego świni.

Olga Jabłońska 2010. Rola receptora węglowodorów aromatycznych w regulacji funkcji układu rozrodczego świni domowej (*Sus scrofa domestica*).

Joanna Piasecka 2013. Wpływ 2,3,7,8-tetrachlorodibenzo-p-dioksyny i genisteiny na funkcjonowanie komórek ziarnistych pęcherzyka jajnikowego świni.

Agnieszka Kołomycka. 2017. Zmiany w transkryptomie komórek ziarnistych linii AVG-16 poddanych działaniu TCDD. In Polish. (TCDD-induced changes in the transcriptome of granulosa AVG-16 cell line).

Karina Orłowska. 2019. Receptor węglowodorów aromatycznych: interakcje z TCDD oraz wpływ jego aktywacji na proteom komórek ziarnistych świni domowej (*Sus scrofa f. domestica*).

Tomasz Molcan. 2019. Specyficzność substratowa enzymów z rodziny CYP1 świni domowej (*Sus scrofa f. domestica*) względem wybranych estrogenów środowiskowych.

Monika Jabłońska. 2020. Zmiany wywołane przez 2,3,7,8-tetrachlorodibenzo-p-dioksynę (TCDD) w transkryptomie komórek ziarnistych linii komórkowej AVG-16 z wyciszonym i niewyciszonym genem receptora węglowodorów aromatycznych (AhR).