

1. Institution

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2. Principal investigator and contact person

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3. Key personnel

Anna Maria Duszewska assistant professor	duszewskaanna@hotmail.com	Experimental Embryology Histology
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Rafał Starzyński associate professor	r.starzynski@ighz.pl	Molecular biology
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4. Research profile

The laboratory studies are focused on influence of heat shock on interaction between bovine embryos and their maternal environment, particularly the effects of different temperatures on: 1) the development potential of bovine embryos; 2) gene expression in embryos as well as oviduct and uterus tissues; 3) histological changes in oviduct and uterus tissues.

5. Key technologies and tools

in vitro production of bovine embryos, system culture of bovine oviduct epithelial cells and endometrium cells, light- and electron- microscopic techniques (SEM, TEM), Real Time PCR, Western - Blot, superovulation, ultrasonography, Ovum Pick-Up.

6. Selected publications

Duszewska A.M., Wojdan J., Gawron W., Wenta-Muchalska E., Waś B., Wiśniewska A., Reklewski Z.: The development potential of bovine embryo co-culture with Vero and Vero/BRL cells. *Journal of Animal and Feed Science* 2007, 16, 370-379.

Starzyński RR, Gonçalves AS, Muzeau F, Tyrolczyk Z, Smuda E, Drapier JC, Beaumont C, Lipinski P.: STAT5 proteins are involved in down-regulation of iron regulatory protein 1 gene expression by nitric oxide. *Biochem J.* 2006 Dec 1, 400(2), 367-75.

Starzyński RR, Lipinski P, Drapier JC, Diet A, Smuda E, Bartłomiejczyk T, Gralak MA, Kruszewski M.: Down-regulation of iron regulatory protein 1 activities and expression in superoxide dismutase 1 knock-out mice is not associated with alterations in iron metabolism. *J Biol Chem.* 2005 Feb 11, 280(6), 4207-12. Epub 2004 Nov 22. PMID: 15557328 [PubMed - indexed for MEDLINE].

Matuszewska M., Sysa P.: Epididymal cysts in European bison. *J. Wildlife Diseases* 2002, 38, 657-640.

Duszewska A.M., Reklewski Z., Pieńkowski M., Karasiewicz J., Modliński J.A.: Development of bovine embryos on Vero/BRL cell monolayers (mixed co-culture). *Theriogenology* 2000, 54, 1239-1247.