



SYMPOSIUMS

Polish-French symposium on new regulations of reproduction: the role of adipokines

20 novembre 2022

Centre Scientifique de l'Académie Polonaise des Sciences à Paris

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The increase in the incidence of infertility and the social costs are the starting point for a global discussion on the search for optimal system solutions, increasing the chances of improving the effectiveness of the prevention and treatment of infertility. The current research focuses on the discovery and description of new markers of fertility – adipokines, and the proper regulation of reproductive function in order to increase the fertility of animals. Adipokines are adipose tissue hormones that have pleiotropic action in the body, including regulation of appetite and satiety processes, energy homeostasis of the organism, metabolism of carbohydrates and fats. Metabolic disorders and infertility are observed in people with excessive amounts of adipose tissue. The secretion profile of adipokines is altered in obese patients, therefore it is believed that adipokines may constitute the link between obesity and impaired fertility.

The topics discussed during the meeting included various issues related to the role of adipokines in the regulation of fertility at the central (hypothalamus – pituitary) and peripheral (gonads, uterus, placenta) levels in normal and pathological conditions.

The symposium was also an opportunity to discuss the practical application of current knowledge on adipokines in the reproductive system. A special accent concerned the cooperation between biologists, veterinarians and gynecologists from Poland and France in a wider international context.

Polish-French symposium on new regulations of reproduction: the role of adipokines

20/10/2022

Académie Polonaise des Sciences Centre Scientifique à Paris; 74, rue Lauriston; 75116 Paris



Organizers:



ACADEMIE POLONAISE
DES SCIENCES
Centre Scientifique à Paris



JAGIELLONIAN UNIVERSITY
IN KRAKOW

Affiche

 PROGRAMME

20/10/2022

08:45-09:00 REGISTRATION

09:00-09:10 WELCOME SPEECH

Magdalena Sajdak (Polish Academy of Sciences
Scientific Center in Paris)

Joëlle Dupont (INRAE)

Agnieszka Rak (Jagiellonian University in Kraków)

FIRST PANEL

*The role of adipokines on fertility regulation
at central level: hypothalamus – pituitary*

Moderators: Tadeusz Kamiński (University of Warmia and Mazury
in Olsztyn)

Anthony Estienne (INRAE)

09:10-09:25 Małgorzata Szczęsna (University of Agriculture
in Kraków)

*Pregnancy – induced adaptation of central sensitivity
to leptin – lesson from large animal model.*

09:25-09:40 Laurence Dufourny (INRAE) **ONLINE**

*Does apelin interact with GnRH and kisspeptin
neuronal populations to modulate the central control
of reproduction in male rodents? A neuroanatomical,
molecular and functional investigation.*

09:40-09:55 Kamil Dobrzyń (University of Warmia and Mazury
in Olsztyn)

*Adipokines, important agents in the regulation
of the hypothalamic-pituitary-ovarian axis.*

09:55-10:10 DISCUSSION

10:10-10:30 COFFEE BREAK & POSTER SESSION I

Małgorzata Kotula-Balak (University of Agriculture in Kraków)

Adipokine signaling in health and disease – studies in human, dog, boar and rodent testes.

Agnieszka Partyka (Wrocław University of Environmental and Life Sciences)

Spermatozoal functions and characteristics – assessment tools in obesity.

Weronika Biernat (University of Agriculture in Kraków)

The roles of leptin and resistin in reproduction and leptin resistance in sheep.

Karolina Pich (Jagiellonian University in Kraków)

Effect of omentin on steroid synthesis in porcine ovarian follicles. In vitro study.

Natalia Respekta (Jagiellonian University in Kraków)

Expression and action of omentin on porcine pituitary cell function.

Ewa Mlyczyńska (Jagiellonian University in Kraków)

Visfatin in the porcine corpus luteum: expression and action on steroid synthesis and angiogenesis.

Dominika Wachowska (Jagiellonian University in Kraków)

Asprosin – new adipokine in female reproduction.

SECOND PANEL

The role of adipokines on fertility regulation at peripheral: ovary & testis

- Moderators: Wojciech Nizański (Wrocław University of Environmental and Life Sciences)
Pascal Froment (INRAE)
- 10:30-10:45 Cecilia Dall'Aglio (University of Perugia)
Adipokines expression in ewes subjected to the influence of different nutritional level.
- 10:45-11:00 Patrycja Kurowska (Jagiellonian University in Kraków)
Expression and role of spexin in human granulosa cells.
- 11:00-11:15 Anthony Estienne (INRAE)
Chemerin produced locally within the reproductive tract impairs testicular function in roosters.
- 11:15-11:30 Guillaume Bourbon (INRAE) **ONLINE**
The hepatokine FGF21 increases the human spermatozoa motility.
- 11:30-11:45 Mathilde Daudon (INRAE) **ONLINE**
Fibronectin Type III domain containing 5 (FNDC5) expression in bovine ovary and in vitro effects on bovine granulosa cells proliferation and steroidogenesis.
- 11:45-12:00 DISCUSSION
- 12:00-13:30 LUNCH BREAK
- 13:30-14:00 Invited speaker Sami Dridi (University of Arkansas)
ONLINE
Role of avian orexin in muscle energy metabolism and hepatic lipogenesis.
- 14:00-14:10 DISCUSSION

THIRD PANEL

The role of adipokines on fertility regulation at peripheral: uterus, placenta, embryo development & pregnancy

- Moderators: Nina Smolińska (University of Warmia and Mazury in Olsztyn)
Joëlle Dupont (INRAE)
- 14:10-14:25 Marta Kieżun (University of Warmia and Mazury in Olsztyn)
Adipokines, rising stars in early pregnancy theater.
- 14:25-14:40 Monika Dawid (Jagiellonian University in Kraków)
Visfatin in human placenta cells.
- 14:40-14:55 Marta Hita Hernández (INRAE-BREED)
Role of adiponectin on placental sphingolipid metabolism in maternal obesity.
- 14:55-15:10 Ophélie Bernardi (INRAE) **ONLINE**
Chemerin in egg albumen and cell number of germinal disc: potential biomarkers of the embryo development for genetic selection in birds.
- 15:10-15:25 DISCUSSION
- 15:25-15:45 COFFEE BREAK & POSTER SESSION II
(ONLINE)
- Marlena Gudelska (University of Warmia and Mazury in Olsztyn)
*The role of chemerin in the uterus of domestic pig (*Sus scrofa domestica* L.) during the oestrus cycle and early pregnancy.*

Grzegorz Kopij (University of Warmia and Mazury
in Olsztyn)

*Visfatin impact on the transcriptome luteal cells
of domestic pig (*Sus scrofa domestica* L.) during early
pregnancy.*

Loise Serra (INRAE)

Effect of endocrine disruptors on adipokine secretions.

FOURTH PANEL

Polish-French science possibility and future plan

15:45-17:00 Agnieszka Rak (Jagiellonian University in Kraków)
Joëlle Dupont (INRAE)