The primary source of asprosin is thought to be the white adipose tissue, however, *FBN1* is expressed in many human organs/tissues, including the hypothalamus, pituitary, ovaries, testes, and uterus. *FBN1* mRNA was also found in the bovine ovarian granulosa cells and cells of the inner theca of the ovarian follicle. It should also be noted that asprosin receptor expression has been detected in the testes and ovaries of humans and mice. Existing research has mainly focused on the granulosa cells and theca cells of ruminant ovaries. It has been suggested that asprosin has a regulatory function in the reproductive system, but this role is still not fully understood and described.

We hypothesize that asprosin, a hormone belonging to the adipokines group, is engaged in the control of reproduction during implantation and pregnancy establishment through its effect on the transcriptomic and proteomic profiles of the endometrium.

As part of this project, we plan to investigate the expression of asprosin in the uterus of pigs during the estrous cycle and early pregnancy. We also want to analyze the effect of asprosin on the transcropromic and proteomic profiles of pig endometrium collected from animals during early pregnancy.

The obtained results will allow to determine the expression of asprosin in the pig uterus and its dependence on the physiological state of the animal (the oestrous cycle/pregnancy). The use of advanced high-throughput methods will allow the detection of all genes and proteins (including new, previously unexplored) whose expression may change under the influence of asprosin, as well as obtaining new information on the role of asprosin in the pig uterus. The data obtained will help us to better understand the mechanisms responsible for the reproductive success of animals. The results will fill a gap in knowledge about the role of asprosin in the control of reproduction.