

DNA methylation in heterogeneous populations of fish spermatozoa after their aging in vitro

Project name	DNA methylation in heterogeneous populations of fish spermatozoa after their aging in vitro
Registration number	GA23-06426S
Realization date	1. 1. 2023 – 31. 12. 2025
Recipient	University of South Bohemia in České Budějovice Faculty of Fisheries and Protection of Waters
Grant program	Czech Science Foundation - Standard projects
Responsible solver	Prof. Ing. Otomar Linhart, DrSc.

PROJECT GOALS

This is the first study elaborating the genome variability in different fish sperm populations after in vitro aging, which can serve as a foundation for better understanding of sperm aging in higher vertebrates as well. Sperm DNA methylation patterns are important for the development of embryos and health of offspring. The evaluation will be done at the levels of the whole genome, gene transcription analysis, global methylation as well as the phenotypic and functional changes in populations of fresh/young sperm compared to the populations of aged sperm. We will focus on determination of the DNA methylation pattern during sperm aging in heterogeneous population of motile/non motile spermatozoa with and without a damaged cell membrane. The expression level of genes involved in the differential methylation of DNA will also be estimated, as well as transcripts associated with embryonic development in the middle blastula, depending on the quality of the aged sperm populations.

PROJECT BUDGET

	Amount CZK
Total approved costs	8 312 thou. CZK
Public financial support	8 070 thou. CZK
Other public sources	242 thou. CZK
Non-public and foreign sources	0 thou. CZK

CONTACT

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