

Plan Overview

A Data Management Plan created using DMPTool

Title: Effects of stress and maternal nutrition on the somatotropic axis development during larval and juvenil stages of zebrafish

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Project abstract:

Stress is considered as an adaptive response to potentially harmful stimuli in the environment. The main physiological adaptation of this condition is the increased circulating cortisol levels, which in excess, can be transferred and incorporated into the oocytes of maturing females, affecting the embryonic developmental program. Moreover, it is known that availability of maternal energy substrate is also an essential environmental factor that modulates the developmental program. Therefore, the current proposal aims to evaluate the effects of cortisol and maternal nutrition on the development of somatotropic axis in the offspring, using zebrafish as model. For this purpose, maturing females will be divided into 5 groups, according to the diet: cortisol enriched diet (Group 1), commercial diet (Group 2), and diets with increasing levels of proteins of dry matter, 15% (Group 3), 35% (Group 4) and 60% (Group 5). The resulting offspring will be evaluated at 24, 48, 72 hours post-fertilization (hpf) and also during the late larval [14 days post-fertilization (dpf)] and juvenile (30 dpf) periods. Gene expression of the main components of the somatotropic axis, such as GH (growth hormone), Igfs (insulin-like growth factor) and genes related to myogenesis, will be evaluated. Thus, next to basic knowledge, this proposal has an evident importance for aquaculture and animal research sciences regarding how the maternal environment influences the development of the somatotropic axis in the offspring.

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Effects of stress and maternal nutrition on the somatotrophic axis development during larval and juvenil stages of zebrafish

Gene expression

Histomorphometric analysis

All the data will be collected in different experiments.

Data will be collected at each experiment and tabulated in Excel spreadsheets. Data analysis will be performed using Graphpad software.

Protocols and detailed notes on each experiment will be recorded in the laboratory notebooks.

The Project will be submitted to the Ethics Committee on the Use of Animals (CEUA) - UNESP/Botucatu

The data will be kept confidential until publication in indexed journals.

The all data will be stored by principal investigators in the cloud and external hard drives, with daily backups, and with restricted access to the researchers team involved in the project. In addition, data and metadata will be published through a platform made available by UNESP, available at: <https://repositorio.unesp.br/>.

UNESP will be responsible for your safety for a specific period. UNESP will provide the platform: <https://repositorio.unesp.br/>.

gene expression and histomorphometric analysis must be shared and preserved.

Data sets with long-term value will be preserved in the cloud and on external hard drives.

Data will be shared with the scientific community through publication in indexed journals

There are no legal or ethical restrictions. However, the data will be kept confidential until publication in indexed journals.

Principal investigator, researcher team, UNESP

The principal investigator will keep all data updates, as well as backups, and may request technical assistance from UNESP's/Botucatu IT sector.
