

Plan Overview

A Data Management Plan created using DMPTool

Title: FOLLICULAR SYSTEM: IMPROVEMENT OF A NEW PROTOCOL FOR IN VITRO OOCITARY MATURATION IN CATTLE

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Project abstract:

In vitro production of bovine embryos (IVP) has been applied to increase fertility and enhance genetic improvement in beef and dairy cattle despite its recognized low efficiency. In vitro maturation (IVM) is considered to be the main technical bottleneck of IVP in cattle. Current IVM protocols do not reflect the physiological conditions causing a mismatch between nuclear and cytoplasmic oocyte maturation. Oocytes subjected to IVM are derived from follicles at different developmental stages and are heterogeneous with regard to chromatin configuration and transcripts accumulation. In previous studies funded by FAPESP, we developed the Follicular System, which includes a strategy to harvest a more homogeneous population of oocytes, as well as a sequential culture system adjusted to the oocyte developmental stage, mimicking the intrafollicular environment before (pre IVM/FS phase) and after ovulation (IVM/FS phase). The aim of this proposal is to improve the IVM phase of the Follicular System by testing the addition of intrafollicular peptides that regulate the ovulatory cascade to the culture medium [FLI combination (FGF2 + LIF + IGF1); neurotensin (NTS) and neuregulin 1 (NRG1), potentially benefiting oocyte developmental competence and consequently IVP.

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Data will be obtained from in vitro oocyte maturation and in vitro embryo production. The data will be shown the possible alterations during the treatment during IVM in cattle.

COCs will be matured with treatment or not and submitted to IFV and the data will be evaluated by meiotic progression, rate of embryo production, and genic expression of genes involved in this process.

Graphics, figures, and tables.

Nothing to declare.

Nothing to declare.

Data will be backed up with copies in hard drives in laboratory computers, as well as the university offers google Drive, which assists in data storage.

All students involved in the project will have access to the data, but just the responsible researcher will be edit and update the backup.

The data will be shared with the scientific community through manuscript publications. In addition, they will serve to originate future projects.

We will stock the scientific data in drives of laboratory and institutional server.

The data will be published in scientific congress and scientific journals.

There aren't restrictions.

The data acquired during the project will be managed by the responsible researcher.

Nothing to declare.
