Title

Comparisons of assessing boar semen quality by WST-8 assay, flow cytometry (FC) and Computer-assisted sperm analysis (CASA)

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General Introduction

This dataset contains data of assessing boar semen quality by WST-8 assay, flow cytometry (FC) and Computer-assisted sperm analysis (CASA). All the results were compared in order to create the standard curves of WST-8 assay for the evaluations of sperm motility, viability, acrosome integrity and mitochondrial activity in boar semen. It is being made public to act as experimental data for publications of Hsiu-Lien Lin and for other researchers to use this data in their own work.

The data in this dataset were collected in the Reproduction Laboratory of Physiology Division, Livestock Research Institute, between July 2018 and October 2018. This research project was made possible by the financial support of the Council of Agriculture, Executive Yuan, Taiwan.

Purpose of the test campaign

The purpose of the present study was to establish the procedures of WST-8 assay and to create the standard curves for boar semen quality assessment.

Test equipment

Boar semen samples were performed on a spectrophotometer (BioTek, Vermont, USA) to record the absorbance of WST-8 assay. Sperm motility was assessed with a CEROS II™ CASA (Hamilton Thorne Inc., Beverly, MA, USA). Sperm viability, acrosome integrity and mitochondrial activity were evaluated by Guava® easyCyte microcapillary flow cytometry (Guava Technologies Inc., Hayward, CA, USA; distributed by IMV Technologies, L'Aigle, France).

Description of the data in this dataset

The absorbance of WST-8 assay was recorded at a wavelength of 450 nm after incubation at 37℃ for 10, 20, 30, 40, 50, and 60 min. Sperm concentration was adjusted to 30×10^6 cells/ml, and a 2.5 μl aliquot was placed into a four-chamber CellVision counting slide (CellVision Technologies, Heerhugowaard, the Netherlands) to analyse sperm motility. Flow cytometry (FC) combined with fluorescence-staining technology to obtain the results of sperm viability, acrosome integrity and mitochondrial activity.