Universitat Autònoma de Barcelona

2017/2018

Assisted Reproduction Techniques Applied to the Management of Laboratory Animal Strains

Code: 103975
ECTS Credits: 3

Degree	Type	Year	Semester
2502445 Veterinary Medicine	OT	5	0

Contact

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Use of languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers

Manel López Béjar
Josep Santaló Pedro

Prerequisites

There are no prerequisites for taking this course. However, in order to ensure the proper the achievement of the learning aims, it is recommended that students have basic knowledge about reproductive technologies and techniques related to this discipline.

It is common to use sources of information in English and it is recommended that students have a good knowledge of this language.

Objectives and Contextualisation

The aims are to provide students with updated knowledge of assisted reproduction methodologies and procedure

The main training objectives of the subject are:

- To know the techniques of assisted reproduction and the procedures of in vitro manipulation of gametes and em

- To understand the importance of the application of these technologies in the management of colonies and strair

Content

Theoretical lessons

1. Introduction. Formation of gametes, fertilization and pre-implantation embryo development: an update

2. Reproduction of laboratory animals. Reproductive cycles in males. Reproductive cycles in females. Gestation a

3. Techniques of assisted reproduction I. Superovulation. Scheduled crossings. Recovery of preimplantation emb

4. Assisted reproduction techniques II. Artificial insemination.. "In vitro" oocyte maturation. Sperm recovery. "In vi

5. Embryo transfer. Preparation of pseudopregnant females. Vasectomy of males. Embryo transfer procedures.

6. Criopreservation. Characteristics of the freezing and thawing protocols. Vitrification. Cryopreservation of sperm

7. "In vitro" manipulation of preimplantation embryos. Preimplantation genetic characterization. Production of chir

8. Practical applications for the management of laboratory animal strains

Practical lessons

Obtention and manipulation of gametes: superovulation, oocyte recovery epididymal sperm recovery.

Sperm capacitation

Obtention and "in vitro" culture of embryos.

Embryo manipulation: cloning by embryo blastomere isolation

Cryopreservation of gametes and embryos. Survival evaluation.

Management of banks of gametes and embryos.

Surgical techniques: vasectomy, embryo transfer

Audio-visual support tutorials.