

1. Institution

Laboratory of Biotechnology of Reproduction, Agris-Sardegna Dipartimento della Ricerca in Produzioni Animali S.S. Sassari-Fertilia Km 18.600, 07040 Olmedo (SS) Italy

2. Principal investigator and contact person

Maria Dattena, Dr. DVM PhD (mdattena@agrisricerca.it) +39 079 3750 394

3. Key personnel

NAME	EMAIL	RESEARCH AREA DETAILS
Laura Mara	lama1974@hotmail.it	embryology, semen preservation
Susanna Pilichi	susannapilichi@yahoo.it	stem cell culture
Daniela Sanna	danysanna@tiscali.it	gene expression, embryo sex determination

4. Research profile

The laboratory has a long established experience in the field of gametes and embryo technologies particularly in small ruminant species, but also in equine and porcine.

Recently the laboratory has worked on isolation, characterization, culture and transplantation of embryonic and mesenchymal stem-like cell.

At the moment the laboratory is involved in the in vitro production of sheep embryos cultured in different culture system to test their quality by gene expression analysis and embryo transfer.

5. Key technologies and tools

In vitro embryo production; cryopreservation of embryos and cells; nuclear transfer; splitting of embryos; isolation, culture and characterization of sheep embryonic and mesenchymal stem-like cells; transplantation of sheep embryonic stem cell; gene expression; determination of sex embryos; reproduction in small ruminant; artificial insemination; preservation of semen; superovulation and embryo transfer.

6. Selected publications (max. 5)

1. **Sheep embryonic stem-like cells transplanted in full-thickness cartilage defects.** Maria Dattena, Susanna Pilichi, Stefano Rocca, Laura Mara, Sara Casu, Gerolamo Masala, Lucia Manunta, Andrea Manunta, Eraldo Sanna Passino, Roy R. Pool and Pietro Cappai. (2009) J Tissue Eng Regen Med, Published on line 175-187 (DOI: 10.1002/term.151).

2. **Lambing rate of vitrified blastocysts is improved by embryo culture with BSA and Hyaluronan.** M. Dattena, L. Mara, Ali. A. Bin T., P. Cappai. (2007) Mol Reprod Dev. 74(1):42-47.

3. **Isolation, culture and characterisation of embryonic stem like-cell from vitrified sheep blastocyst.** M. Dattena, B. Chessa, D. Lacerenza, C. Accardo, S. Pilichi, L. Mara, F. Chessa, L. Vincenti, P. Cappai. (2006) Mol Reprod Dev. 73(1):31-39.

4. **Effect of different diluents on goat semen fertility.** Mara L., Dattena M., Pilichi S., Sanna D., Branca A., Cappai P. (2007) Anim Reprod Sci. 102(1-2):152-157.

5. **Sexing of in vitro produced ovine embryos (Ovis aries) by duplex Polymerase chain reaction.** Mara L., Pilichi S., Sanna A., Accardo C., Chessa B., Chessa F., Dattena M., Bomboi G., Cappai P. (2004) Molecular Reproduction and Development 69: 35-42.