Special Issue

Advances and Limitations of In Vitro Embryo Production Technologies in Small Ruminants

Message from the Guest Editors

The procedures for in vitro embryo production (IVEP) have been widely applied in domestic animal breeding to accelerate the genetic spread of females. The combination of IVEP and embryo cryoconservation has contributed to shortening generation intervals and increased genetic gain for dairy cows. Compared to embryos produced in vivo, the efficiency of IVEP for small ruminants is still not ideal and limits its commercial application. The IVEP methodology involves the following steps: the oocytes recovered from follicles are maturated (IVM), fertilized in vitro (IVF), and cultured in vitro (IVC) up to the blastocyst stage. Recently, research using advanced molecular methods, particularly multi-omics sequencing at the single cell level, has clarified many issues related to oocyte maturation and embryo development, which will soon be applied to improve the use of IVEP for small ruminants. In this Special Issue, we invite original research papers and reviews or studies addressing the advances and limitations of in vitro embryo production technologies in small ruminants, including inducing ovulation, oocyte aspiration, oocyte maturation, fertilization, and embryo culture in vitro.

Guest Editors

Dr. Lu Zhang

Department of Animal Reproduction and Developmental Sciences, China Agricultural University, Beijing, China

Dr. Gongxue Jia

Northwest Institute of Plateau Biology, Chinese Academy of Sciences, Xining, China

Deadline for manuscript submissions

closed (28 February 2025)

Animals

an Open Access Journal by MDPI

Impact Factor 2.7
CiteScore 5.2
Indexed in PubMed

mdpi.com/si/209645

Animals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
animals@mdpi.com

mdpi.com/journal/animals

Animals

an Open Access Journal by MDPI

Impact Factor 2.7
CiteScore 5.2
Indexed in PubMed

mdpi.com/journal/animals

About the Journal

Message from the Editor-in-Chief

Animals is an on-line open access journal that was first published in 2011. *Animals* adheres to rigorous peerreview and editorial processes and publishes only high quality manuscripts that address important issues in the many varied disciplines that involve animals, with a focus on animal science, animal welfare and animal ethics. *Animals* is covered in the Science Citation Index Expanded (SCIE) in Web of Science, with the latest Impact Factor: 2.7 (2024, ranks 15/86 (Q1) in 'Agriculture, Dairy & Animal Science'; 21/170 (Q1) in 'Veterinary Sciences'), 5-Year Impact Factor: 3.2.

Editor-in-Chief

Prof. Dr. Clive J. C. Phillips
1. Institute of Veterinary Medicine and Animal Sciences, Estonian University of Life Sciences, Kreutzwaldi 1, 51014 Tartu, Estonia
2. Curtin University Sustainability Policy (CUSP) Institute, Kent St., Bentley 6102, Australia

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Embase, PubAg, AGRIS, Animal Science Database, CAB Abstracts, and other databases.

Journal Rank:

JCR - Q1 (Veterinary Sciences) / CiteScore - Q1 (General Veterinary)