




Assisted Reproductive Technologies (ARTs) in Domestic Mammals

Salvador Ruiz ^{1,2,*} , Juan Carlos Gardón ³  and Jordi Miró ⁴ 

¹ Department of Physiology, Faculty of Veterinary Medicine, Campus Mare Nostrum, University of Murcia, 30100 Murcia, Spain

² Institute for Biomedical Research of Murcia, IMIB-Arrixaca, 30120 Murcia, Spain

³ Department of Animal Medicine and Surgery, Faculty of Veterinary and Experimental Sciences, Catholic University of Valencia-San Vicente Mártir, Guillem de Castro 106, 46003 Valencia, Spain

⁴ Equine Reproduction Service, Department of Animal Medicine and Surgery, Faculty of Veterinary Sciences, Autonomous University of Barcelona, 08193 Cerdanyola del Vallès, Spain

* Correspondence: sruiz@um.es

As guest editors, we are pleased to present this Special Issue entitled “Assisted Reproductive Technologies (ARTs) in Domestic Mammals”, comprising 10 articles of relevant interest in the field of animal reproduction. Eight research articles [1–8], one feature paper [7], and two review papers [9,10] were included.

In these studies, different experiments were carried out in the area of biotechnology for animal reproduction using various animal models, including sheep [1,10], sows [2], mares [7], bulls [3,4,9], donkeys [5], boars [6], and stallions [8].

Researchers from Pakistan [1], China [1,9,10], Spain [2,3,5,6,8], France [3], Poland [4], Portugal [4], Saudi Arabia [4], Italy [5], Brazil [7], USA [7], and South Africa [9] conducted these trials, and they present their latest findings in this Special Issue. Notably, all 10 articles involve various research centers, and 6 studies are the result of collaboration among different countries [1,3–5,7,9], which demonstrates the high degree of international collaboration in this field.

In summary, this Special Issue provides new insights into the application of biotechnology for animal reproduction by presenting the most recent advances and latest research findings from around the world.



Citation: Ruiz, S.; Gardón, J.C.; Miró, J. Assisted Reproductive Technologies (ARTs) in Domestic Mammals. *Vet. Sci.* **2023**, *10*, 287. <https://doi.org/10.3390/vetsci10040287>

Received: 6 April 2023
Accepted: 10 April 2023
Published: 11 April 2023



Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Author Contributions: Conceptualization, S.R.; writing—original draft preparation, S.R.; writing—review and editing, S.R., J.C.G. and J.M.; supervision, S.R., J.C.G. and J.M. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Jamal, M.A.; Khan, S.; Su, Y.; Yang, C.; Zhao, H.; Xu, K.; Jiao, D.; Cheng, W.; Rauf, A.; Ali, M.; et al. Small Ruminant Farming in Tribal Areas of Dera Ghazi Khan, Punjab, Pakistan. *Vet. Sci.* **2022**, *9*, 279. [[CrossRef](#)] [[PubMed](#)]
2. Ruiz, S.; Gardón, J.C.; Hernández-Caravaca, I.; Luongo, C.; García-Vázquez, F.A. Analysis of Uterine Blood Flow in Breeding Sows through the Estrus and Early Diestrus, and after Artificial Insemination. *Vet. Sci.* **2022**, *9*, 260. [[CrossRef](#)] [[PubMed](#)]
3. Dordas-Perpinyà, M.; Sergeant, N.; Ruelle, I.; Bruyas, J.-F.; Charreaux, F.; Michaud, S.; Carracedo, S.; Catalán, J.; Miró, J.; Delehedde, M.; et al. ProAKAP4 Semen Concentrations as a Valuable Marker Protein of Post-Thawed Semen Quality and Bull Fertility: A Retrospective Study. *Vet. Sci.* **2022**, *9*, 224. [[CrossRef](#)] [[PubMed](#)]
4. Kowalczyk, A.; Gałęska, E.; Szul, A.; Łacka, K.; Bubel, A.; Araujo, J.P.; Ullah, R.; Wrzecińska, M. Fertility Rate and Assessment of the Cytoprotective Capacity of Various Types of Holothuroidea Extracts on Spermatozoa. *Vet. Sci.* **2022**, *9*, 189. [[CrossRef](#)] [[PubMed](#)]

5. Yáñez-Ortiz, I.; Catalán, J.; Delgado-Bermúdez, A.; Carluccio, A.; Miró, J.; Yeste, M. Addition of Reduced Glutathione (GSH) to Freezing Medium Reduces Intracellular ROS Levels in Donkey Sperm. *Vet. Sci.* **2021**, *8*, 302. [[CrossRef](#)] [[PubMed](#)]
6. Sebastián-Abad, B.; Llamas-López, P.J.; García-Vázquez, F.A. Relevance of the Ejaculate Fraction and Dilution Method on Boar Sperm Quality during Processing and Conservation of Seminal Doses. *Vet. Sci.* **2021**, *8*, 292. [[CrossRef](#)] [[PubMed](#)]
7. Segabinazzi, L.G.T.M.; Andrade, L.R.P., Jr.; Alvarenga, M.A.; Dell'Aqua, J.A., Jr.; Canisso, I.F. Use of Intravaginal Progesterone-Releasing Device Results in Similar Pregnancy Rates and Losses to Long-Acting Progesterone to Synchronize Acyclic Embryo Recipient Mares. *Vet. Sci.* **2021**, *8*, 190. [[CrossRef](#)] [[PubMed](#)]
8. Gacem, S.; Catalán, J.; Yáñez-Ortiz, I.; Soler, C.; Miró, J. New Sperm Morphology Analysis in Equids: Trumorph[®] vs. Eosin-Nigrosin Stain. *Vet. Sci.* **2021**, *8*, 79. [[CrossRef](#)] [[PubMed](#)]
9. Modiba, M.C.; Nephawe, K.A.; Mdladla, K.H.; Lu, W.; Mtileni, B. Candidate Genes in Bull Semen Production Traits: An Information Approach Review. *Vet. Sci.* **2022**, *9*, 155. [[CrossRef](#)] [[PubMed](#)]
10. Khan, S.U.; Jamal, M.A.; Su, Y.; Wei, H.-J.; Qing, Y.; Cheng, W. Towards Improving the Outcomes of Multiple Ovulation and Embryo Transfer in Sheep, with Particular Focus on Donor Superovulation. *Vet. Sci.* **2022**, *9*, 117. [[CrossRef](#)] [[PubMed](#)]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.