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### Comparison Between Oviduct Fluid Protein and Oviductal Epithelia Cell As Supplements In Capacitation Media To Improve Sheep's Spermatozoa Quality

Yudit Oktanella, Aulia Firmawati, Viski Fitri Hendrawan, Desi Wulansari

Department of Veterinary Reproduction, Faculty of Veterinary Medicine, Brawijaya University, Jalan MT Haryono 169, Malang.

**Abstract:** Embryo transfer technique is a breakthrough technology that has been applied in reproduction to increase livestock population through in vitro fertilization (IVF) to produce embryos in large numbers. Constraints are often encountered in producing embryos through IVF techniques. Successful fertilization is still low, especially with regard to the quality of spermatozoa after capacitation process. Previous studies suggests that supplementation of Oviductal Fluid Protein (OFP) in oocyte maturation media provided better oocyte quality outcome than supplementation of Oviductal Epithelia Cell (OEC). However, further study is needed on the comparison of both supplementations on the improvement of spermatozoa quality during in vitro capacitation, which can be seen by identifying viability, motility and spermatozoa membrane permeability after capacitation. The results of this study showed that, compared to supplementation with Oviductal Epithelia Cell, Oviductal Fluid Protein supplementation in capacitation media showed significantly different results in increasing the percentage of viability, motility and spermatozoa membrane permeability after capacitation. Improving the quality of sperm for in vitro fertilization program may support successful frozen embryos production in goats and sheep, as well as improve the genetic quality of goats and sheep in Indonesia.

**Keywords:** Oviduct Fluid Protein, Oviductal Epithelial Cell, spermatozoa quality.

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