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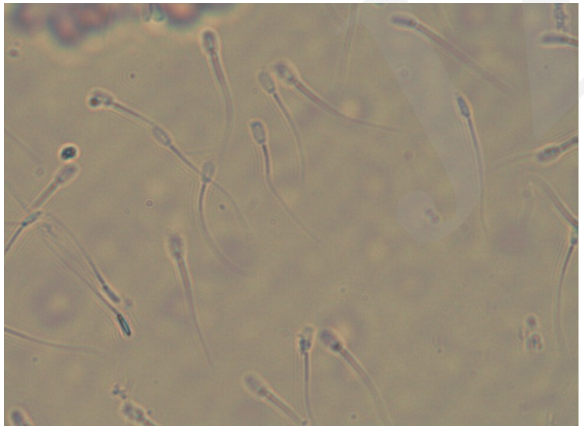
Effect of resveratrol treatment on apoptosis and apoptotic pathways during boar semen freezing

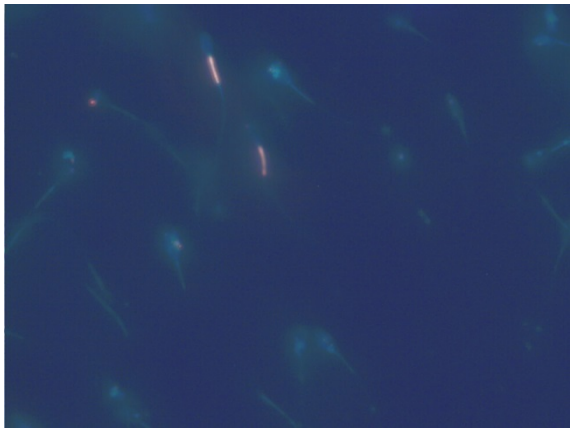
Key words: Resveratrol, Boar Semen Freezing, Antioxidant, Mitochondrial function, Apoptotic pathway

Research Summary

This article mainly focused on effects of RSV treatment during boar semen freezing on its anti-freezing ability, apoptosis and possible apoptotic pathways:

- **RSV did not significantly increase the sperm ,but significantly improved the normal acrosome rate**
- **RSV treatment improved mitochondrial function, reduced oxidation damage and apoptotic level**
- **Both the death receptor and mitochondrial mediated apoptotic pathways involved in apoptosis regulation**





Innovation points

- **Although RSV treatment during boar semen freezing did not significantly increase motility after thawing, it still played an efficient antioxidant role.**

- **RSV treatment could enhance the mitochondrial function and decrease the apoptotic level induced by both the death receptor- and mitochondrial- mediated apoptotic pathways.**

Figure 4

Innovation points

A series of detailed tables and figures about this research were showed in this article.

Table 1| Primer used for qRT-PCR .

Table 2| Effect of RSV treatment during freezing on boar sperm quality.

Table 3| Effect of RSV treatment during boar semen freezing on apoptotic level.

Figure 2, 3, 4| Effect of RSV treatment on ΔΨm, ROS level and ATP content of boar freezing sperms.

Figure 5| Effect of RSV treatment on mRNA relative expression levels of apoptotic related genes from different apoptotic pathways.