SPERMFREEZE SOLUTION

Developed to maximise sperm survival and maintain DNA integrity and function after cryopreservation. SpermFreeze Solution is free from egg yolk, contains only chemically defined components and is ready-to-use.

Maximise sperm survival and maintain DNA integrity

SpermFreeze Solution™ from Vitrolife has been developed to maximise sperm survival and maintain DNA integrity and function after cryopreservation.

SpermFreeze Solution is free from egg yolk and contains only chemically defined components, including glycerol as a cryoprotective agent. The product also contains cholesterol, which has been found to affect the development of acrosomal responsiveness and fertilising ability in vitro[1]. The product is ready-to-use.

SpermFreeze Solution shows equal performance compared to egg yolk containing medium

During recent years, concerns about safety regarding animal derived products result in increased use of alternative products without egg yolk.

A recent study show that there are no significant differences in performance of SpermFreeze Solution compared to egg yolk containing media, Test Yolk Buffer (TYB, Irvine Sci).[2]

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SPERMFREEZE SOLUTION STUDY SHOW EQUAL PERFORMANCE COMPARED TO EGG YOLK CONTAINING MEDIUM

Background

The study included 14 comparisions and the following study endpoints; preservation of sperm motility, sperm-hyaluronic acid binding and sperm-attributes (bio markers) that promote paternal contribution[2].

Results

Post-thaw motility

The motility of spermatozoa was evaluated after 1-2 weeks (short term) and 1-2 months (long term) of storage. Recovery of sperm motility (expressed as % of pre-freezing motility) was comparable between SpermFreeze Solution and TYB (Figure 1).

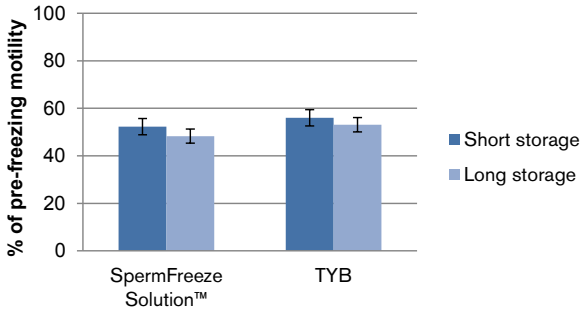

Figure 1. No significant difference in sperm motility recovery is seen comparing SpermFreeze Solution and Test Yolk buffer.

Sperm-Hyaluronic acid binding

A Sperm-Hyaluronic acid binding test represents the sperm fertilising potential regarding binding to the zona pellucida upon sperm-oocyte interaction. The data indicate that the sperm hyaluronic acid binding score did not change. Indeed the recovery of the binding post-thaw was identical in the SpermFreeze Solution and TYB-cryopreserved fractions (Figure 2).

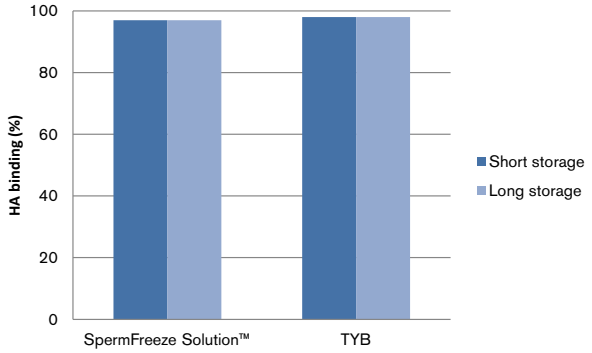

Figure 2. Sperm-Hyaluronic acid binding in thawed sperm was comparable for SpermFreeze Solution and Test Yolk Buffer.

DNA integrity

The most important parameter regarding sperm contribution and early embryo support is DNA integrity. Sperm cryopreservation and thawing may adversely affect sperm DNA integrity.

The results show a decline in sperm that exhibited high DNA integrity. However, there were no significant differences between the sperm fractions processed with SpermFreeze Solution or TYB in either the short term or long term study (Figure 3).

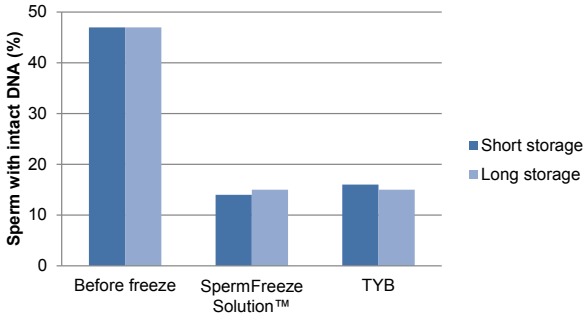

Figure 3. No significant difference in DNA integrity is seen when comparing SpermFreeze Solution and Test Yolk Buffer.

Conclusion

SpermFreeze Solution without egg yolk performs just as well as yolk containing medium and is free from undefined substances. It is from a safety perspective recommended to use SpermFreeze Solution and to avoid using products containing animal derived components.

REFERENCES

1. Cross. Biology of Reproduction July 1, 1998 vol. 59 no. 1 7-11
2. Tekcan M., et al. A new cryomedia without animal components for fertility preservation in men: motility and various attributes affecting paternal contribution of sperm. ASRM 2011 P-337.

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