**BACKGROUND**

SperMagic® Medium is a US patent and patent pending product, formulated to give a stable pH at 37°C without a CO2 incubator. It is designed to combine the most beneficial components of culture media formulations to optimize the in vitro culture environment for poor quality sperm. SperMagic® significantly increases the progression and the motility of spermatozoa from frozen-thawed, testicular biopsy tissue (TESE), epididymis (MESA), oligospermic, asthenozoospermic specimens. Thus maximizes recovery of motile spermatozoa, saving Embryologist’s time for ICSI procedure, which directly results in the increase of fertilization rate and pregnancy in IVF. It also indicates that artificial insemination could achieve a higher pregnancy rate after adding SperMagic® to sperm wash medium, even lower count with 700,000 sperm.

**Main Function**
- Enhancing Sperm Capacitation.
- Increased sperm tail’s swing.
- Speed up sperm forwarding movement.
- Binding Receptor and increased Receptor-mediated signal transduction.
- Enhancing MT’s activity to produce more ATP.
- Increasing Ca^{2+} influx.
- Selected Sperm with higher DNA integrity or lower DNA fragmentation.

**Mechanism and Function**

1. SperMagic® can enhance Ca^{2+} influx via membrane Ca^{2+} channel, consequently increases dynamic movement of micro-tubules through signal transduction system, and finally promotes sperm motility.

2. SperMagic® (SperMagic® could bind sperm membrane receptor and then stimulate receptor-linked signal transduction system, and increase Ca^{2+} influx, consequently promote sperm capacitation and hyper-activation.

3. SperMagic® can produce more ATP energy via increasing mitochondria metabolism, and further provide enough ATP for sperm movement.
Clinical Studies and Trials

(一) SperMagic® medium can significantly increase the progression and the motility of spermatozoa from frozen-thawed, testicular biopsy tissue (TESE), epididymis (MESA), oligospermic, asthenozoospermic specimens.

(二) SperMagic® can dramatically increase IUI pregnancy rate, even with less than 500,000 sperm.

(三) SperMagic® can significantly promote sperm motility and progression in male infertility, thus embryologist could easily perform ICSI, and result in increased ICSI fertilization rate, and generate more embryos, indirectly increase pregnancy rate.

(四) SperMagic® can significantly improve sperm DNA integrity after selecting motile sperm, consequently increase fertilization rate and pregnancy rate.

REFERENCES
1. Biology of Reproduction, Special Issue, P229-230, 2005
2. Theriogenology, Suppl. 2008, P36
3. Reproduction, fertility & development, 2006; 18(1, 2):259 (#J0135040)
5. Date on file

PRECAUTIONS AND ATTENTIONS

- Do not use it if the vial is broken.
- Do not use it if the medium becomes cloudy or suspects microbial contamination.
- Take out the ideal volume of medium under aseptic conditions.
- For intended use only.
- Do not use after expiration date