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OPTIXcell

Protein-free egg yolk-like media
for frozen and fresh bovine semen



Breakthrough Technology
Liposome inside





OPTIXcell

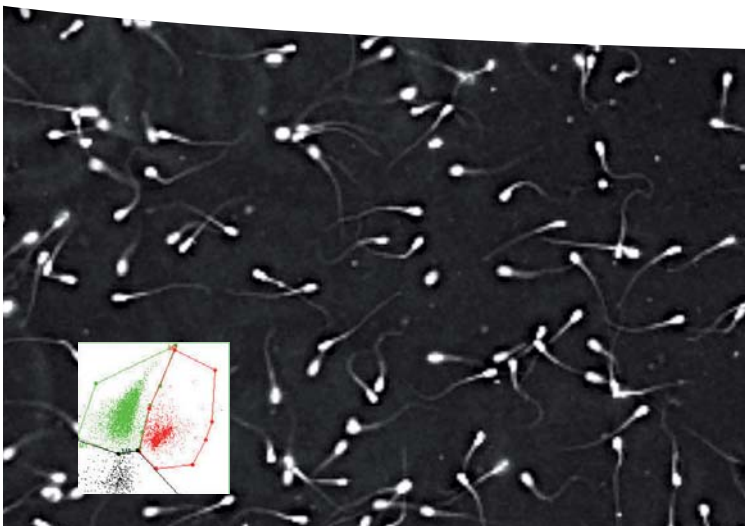
Breakthrough Technology
«Liposome inside»



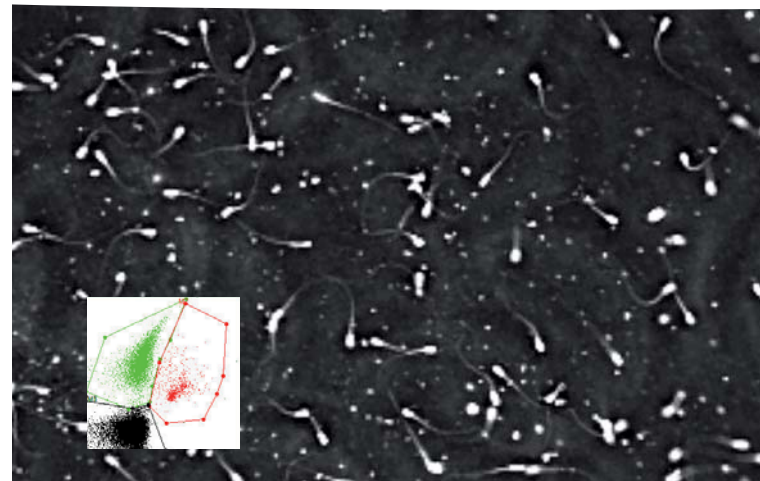
10 outstanding advantages

- **Animal protein-free** & chemically defined
- **Biosecured**
Sterilized by filtration
- **Clear, particle-free media**
Enhanced microscope and CASA semen evaluation
- **Optimized for fresh and frozen semen**
- **Wash-free Flow-Cytometer usage**
Adapted for today's most demanding laboratories
- **Proven fertility rates**
Peace of mind
- **Enhanced post-thaw motility at sub-optimal concentrations**
Possible higher pass marks for sorted sexed semen, genomics and high demand bulls
- **Immediate preparation**
Easy (add H₂O), Fast (immediate pH and OP stabilization)
Labor savings & possible error reductions
- **Extended shelf life**
Expiry date: 18 months
- **Egg yolk-like Thermoresistance sperm test results**
The most standard test to evaluate semen quality post-thaw

Clear wash-free analysis



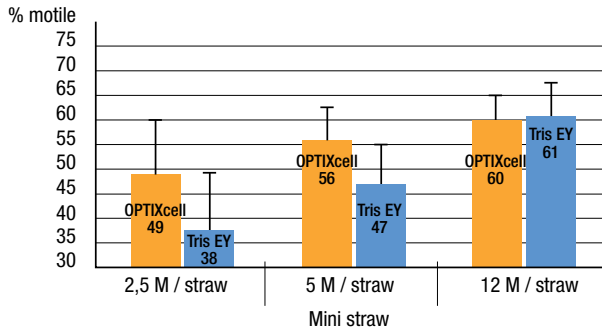
OPTIXcell: clear extender



Egg yolk extender

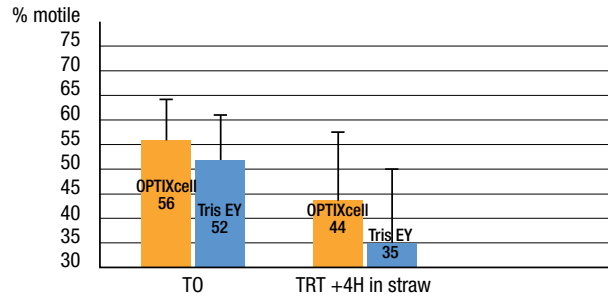
Positive extension rate effect

OPTIXcell performs significantly better than Tris egg yolk with low numbers of spermatozoids per dose. Motility test performed with IVOS CASA system.

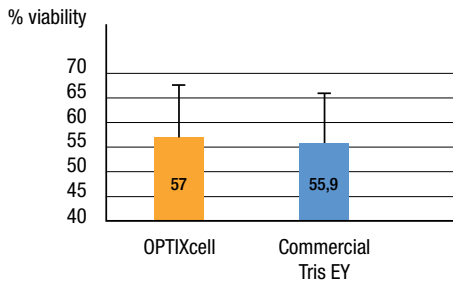


Egg yolk-like thermoresistance QC test

OPTIXcell held at 37°C for 4 hours in straws ranks higher than standard egg yolk extenders. Motility test performed with IVOS CASA system.



Viability



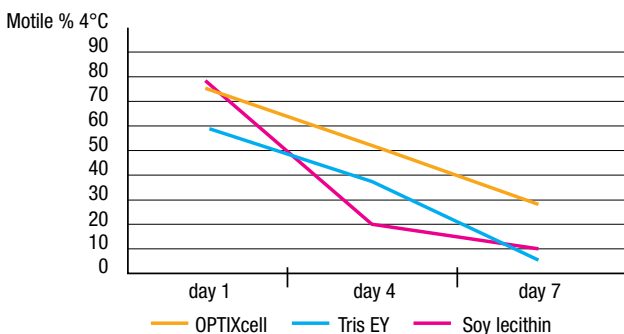
N= 41 bulls
161 ejaculates
10x10⁶ cells/straw

There is no significant difference between extenders

Viability p=0.3218

Optimized for fresh semen

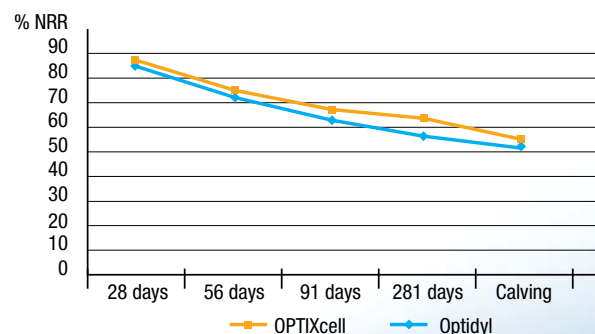
Motility parameters of fresh semen kept in OPTIXcell are significantly higher past 3 days than soy lecithin or Tris egg yolk extenders.



Proven in vivo

In vivo field trials show consistent results both with young genomic bulls and progeny tested bulls.

Split trial – Optidyl 1535 AIs – OPTIXcell 1011 AIs



Liposome

The active fractions of the egg-yolk that ensure the cell protection during refrigeration and freezing are known as phospholipids (Kampschmidt 53, Quinn 80, Manjunath 02, Röpkes 11). Strong of our experience of 30 years of media manufacturing, IMV processes the perfect blend of phospholipids organized together as liposomes, an artificially prepared and water soluble vesicle. Because the polar head of the phospholipid is hydrophilic and its tail hydrophobic, liposomes can be put into solution and sterilized. The sperm cells benefit from a tailor made (and sanitary safe!) cold shock protection: they undergo the freezing process with a maximized survival rate. **No protein is added to the media.**

Safety

Liposomes are obtained through a complex process and contain the perfect protective blend of protective phospholipids for the sperm cell membrane. Lipids which make up liposomes, as opposed to animal protein are not a vector of infective agents.

References

Kampschmidt RF, Mayer DT, Herman HA. Lipid and lipoprotein constituents of egg yolk in the resistance and storage of bull spermatozoa. J Dairy Sci 1953;36:733-42 – **Quinn PJ, Chow PYW, White IG.** Evidence that phospholipid protects spermatozoa from cold shock at a plasma membrane site. J Reprod Fertil 1980;60:403-7. – **Manjunath P, Nauc V, Bergeron A, Ménard M.** Major proteins of bovine seminal plasma bind to the low-density lipoprotein fraction of hen's egg yolk. Biol Reprod 2002;67:1250-8 – **T. Röpkea, H. Oldenhofb, C. Leidingc, H. Siemeb, H. Bollweina, W.F. Wolkerd,** Liposomes for cryopreservation of bovine sperm Theriogenology 76 (2011) 1465–1472.

Quality

OPTIXcell is manufactured by IMV Technologies in a CGMP facility, working under ISO9001:V2008. Each batch is tested with live semen. Antibiotics contains in **OPTIXcell** follow EU regulation 88/407/CEE amended by 2003/43/CE.

Technical specification

	OPTIXcell	Home made Tris Egg Yolk	Soy Lecithin
Egg yolk-like characteristics	YES	YES	NO
Protein-free	YES	NO	YES
Biosecured	YES	NO	YES
Clear	YES	NO	YES
Wash-free cytometer analysis	YES	NO	YES
Fresh semen optimized	YES	NO	NO
Sub-optimal concentration optimized	YES	Partially	NO
Enhanced post-thraw motility	YES	Partially	Partially
Immediate preparation	YES	NO	YES
Clears QC Thermoresistance test	YES	YES	NO
Extend shelf life	YES	N/A	NO
Proven fertility rates	YES	YES	YES

Ref. 024385 – 250ml bottle – QSF 750 ml





- ISO 9001:2008 and medical reference ISO 13485:2003 certified
- Production site complies with the strictest standards of quality and safety
- Continuous improvement of product, production and quality control processes
- All materials and finished products potentially in contact with living cells tested for bio compatibility
- 95% made in France



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