

Technical specification

	OPTiXcell	Home made Tris Egg Yolk	Soy Lecithin
Longer Equilibration	YES	YES	NO
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
Extended shelf life	YES	N/A	NO
Proven fertility rates	YES	YES	YES

Ordering information

OptiXcell	Ref 026218 with antibiotics 250 ml QSF 750 ml
OptiXcell CSS	Ref 025239 (antibiotics-free) 250 ml QSF 750 ml
Kit OptiXcell CSS	Ref 027919 (including antibiotics) 250 ml QSF 750 ml

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 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. One of the benefits of liposomes being cold shock protection, sperm cells undergo the freezing process with a maximized survival rate. No protein is added to the media.

Safety

Lipids which make up liposomes, as opposed to animal protein are not a vector of infective agents. Liposomes are made of lipids. As such they cannot be a vector of infective agents, as opposed to proteins contained in other extender.

References

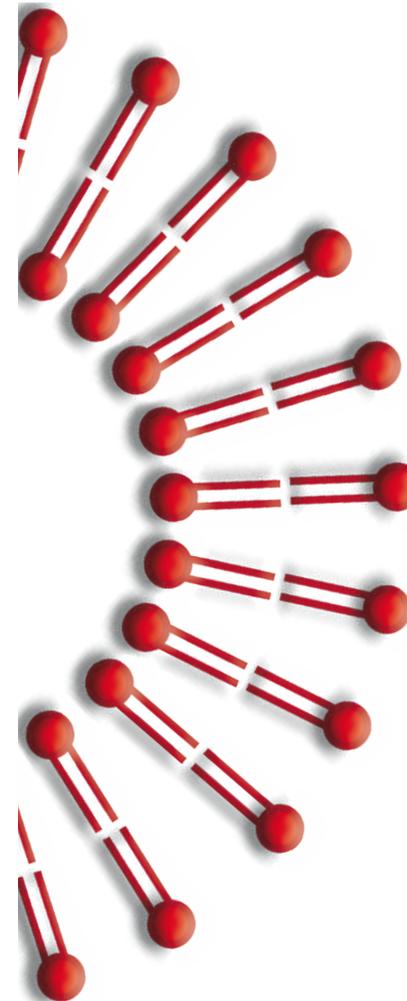
Kampschmidt RF, Mayer DT, Herman HA. Lipid and lipoprotein constituents of egg yolk in the resistance and storage of bull spermatozoa. J Dairy Sci 1953;36:733-42 – Quinn PJ, Chow PYW, White IG. Evidence that phospholipid protects spermatozoa from cold shock at a plasma membrane site. J Reprod Fert 1980;60:403-7. – Manjunath P, Nauc V, M.S. Ansari, B.A. Rakha, S. Akhter, M. Ashiq, OPTiXcell improves the postthaw quality and fertility of buffalo bull sperm
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. Röpke, H. Oldenhof, C. Leiding, H. Sieme, H. Boilwein, W.F. Wolkers, Liposomes for cryopreservation of bovine sperm Theriogenology 76 (2011) 1465–1472. Novel protein-free semen medium improves fertility potential of frozen bovine sperm, A. Camus, A. González, E. Schmitt.

Quality

OPTiXcell is manufactured by IMV Technologies in a CGMP facility, working under ISO9001:V2008. Each batch is tested with live semen. GTLS antibiotics contained in OptiXcell ref: 026218 follow EU regulation 88/407/CEE. amended by 2003/43/CE.

OptiXcell™

LIPOSOMES-BASED MEDIUM FOR BOVINE SEMEN



Liposomes-based media

Optimized for fresh and frozen semen

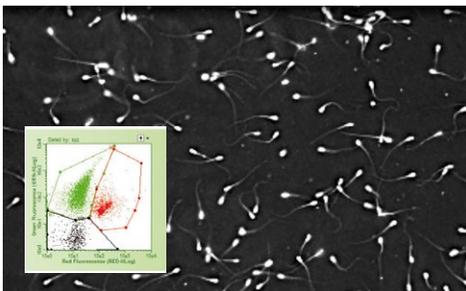
Available in CSS version



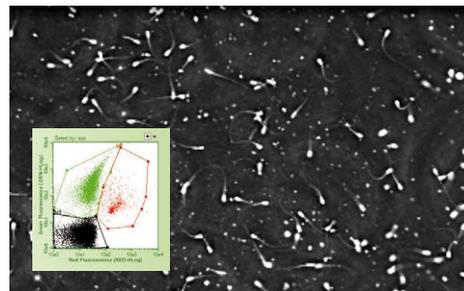
5 outstanding advantages

- Animal protein free and chemically defined**
 avoid the hazard of transporting avian influenza through egg-based products
 avoid the transport of pathogenic microorganisms
 production of harmful metabolites and toxins
- 24 hours equilibration-safe**
 More flexible work organization
 Time before freezing can be longer with the same or even better freezing
- Biosecured**
 Sterilized by filtration
- Extended shelf-life**
 420 days from production
- Enhanced post-thaw motility**
 at sub-optimal concentrations
 Possible higher pass marks for sorted sexed semen, genomics and high demand bulls

Clear wash-free analysis - Enhanced microscope and CASA semen evaluation



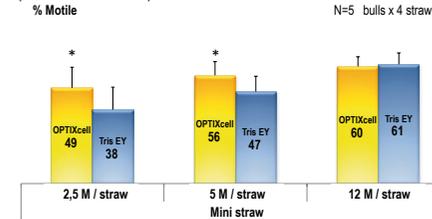
OPTiXcell: clear extender



Egg yolk extender

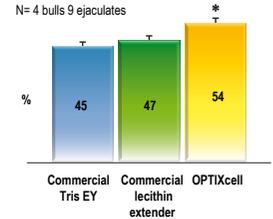
Enhanced dilution rate effect

OPTiXcell performs significantly better than Tris egg yolk with low numbers of spermatozoids per dose.*



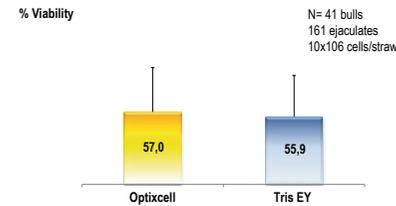
Motility

Motility parameters are significantly higher in OPTiXcell than soy lecithin or Tris egg yolk extenders.



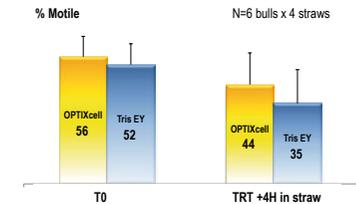
Viability

There is no significant difference between OPTiXcell and commercial Tris EY.



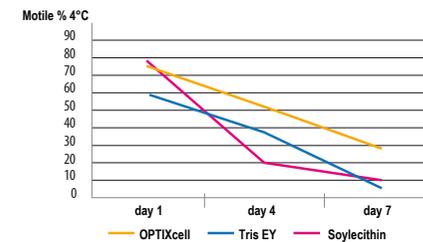
Egg yolk-like thermoresistance QC test

OPTiXcell held at 37°C for 4 hours in straws ranks higher than standard egg yolk



Optimized for fresh semen

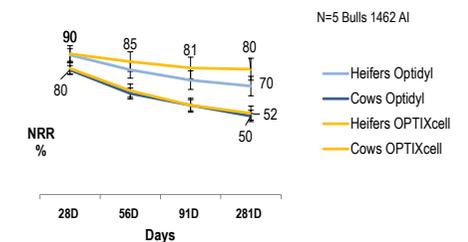
Motility parameters of fresh semen kept in OPTiXcell are significantly higher past 3 days than soy lecithin or Tris egg yolk extenders.



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



* Motility test performed with IVOS CASA system.