

The collection environment is full of sperm predators...



SCIENTIFICALLY PROTECTING SPERM PHYSIOLOGY

Learn more about the most advanced semen collection technology.

- CONTROL** pH
- PREVENT** dehydration
- MINIMIZE** cold shock
- SUPPRESS** ROS
- IMPROVE** fertilization

DID YOU KNOW THE SPECIMEN CUP ENVIRONMENT CAN BE DANGEROUS FOR SPERM?

SPERM PHYSIOLOGY IS UNDER ATTACK WITH TRADITIONAL COLLECTION

Seminal plasma is the only protection for sperm against cellular stress and defense may only last for 30 minutes. Critical cell membranes may be irreversibly damaged^{1,2} by:

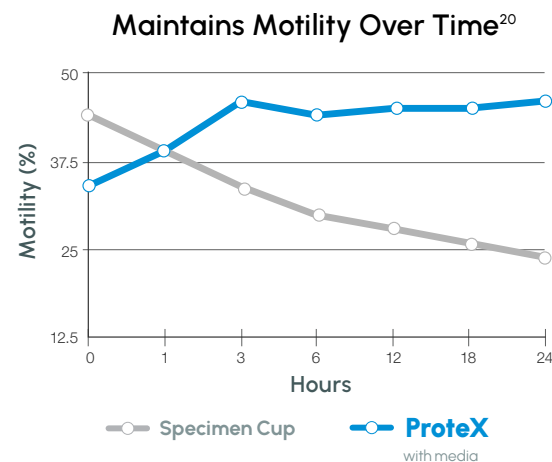
- 1 Drastic uncontrolled change in temperature**
Metabolic activity is altered by fluctuating temperature generating high levels of heat and cold shock proteins³⁻⁴
- 2 Exposure to air, VOC's, and sunlight⁵⁻⁸**
Large surface area absorbs oxygen which immediately reacts to generate oxidative species⁹
- 3 Simple dehydration of cells, pooling in the ring**
Progressive concentration of fluid nutrients and solutes alters osmolarity and draws fluid out of the cell¹⁰
- 4 Unmanaged acidic pH activates unwanted pathways**
Releases hydroxyl groups and peroxides resulting in toxic acidic environment that decrease motility causing premature capacitation and impaired apoptotic pathways¹¹⁻¹²

HEALTHY SPERM CELL PATHWAYS REQUIRE ROS TO FUNCTION PROPERLY

EXCESSIVE LEVELS OF REACTIVE OXIDATIVE SPECIES (ROS) MUST BE CONTROLLED TO AVOID DAMAGE

Extreme levels of ROS overwhelm the antioxidative properties of seminal fluid and accelerate capacitation

- ROS generation is a direct result of surface area exposed to O₂ that diffuses ≈ 1mm into fluid surface⁹
- Most prevalent type of ROS attacks sperm within its 11-second life span; peroxides generated by free oxygen radicals are especially dangerous¹²
- High ROS levels alter seminal pH, promote cellular damage, and elevate levels of Heat Shock Proteins (HSP)¹²⁻¹⁴ and CIRP¹²
- Extreme cellular stress affects critical sperm cell membrane integrity and function needed for fertilization, increasing risk of DNA fragmentation and chromosome strand breaks¹⁵⁻¹⁷



THE BEST COLLECTION TO PROTECT SPERM FOR FERTILIZATION

PROTEX IS PROVEN TO PROTECT

ProteX patented, scientific design when combined with media protects sperm membranes from damage

PREVENT EXTREME ROS LEVELS

Minimize cold shock with triple thermal protection

- 360°C thermal barrier with double-wall construction and air pockets for extra insulation
- Slows cooling rate to 0.3°C per min. to naturally drive the sample's temperature³

Suppress ROS damage to biochemical pathways to preserve more healthy sperm

- Concentrates the sample, reduces surface area, prevents dehydration and drop in pH
- Reduces pathway activation as measured by % acrosomes intact

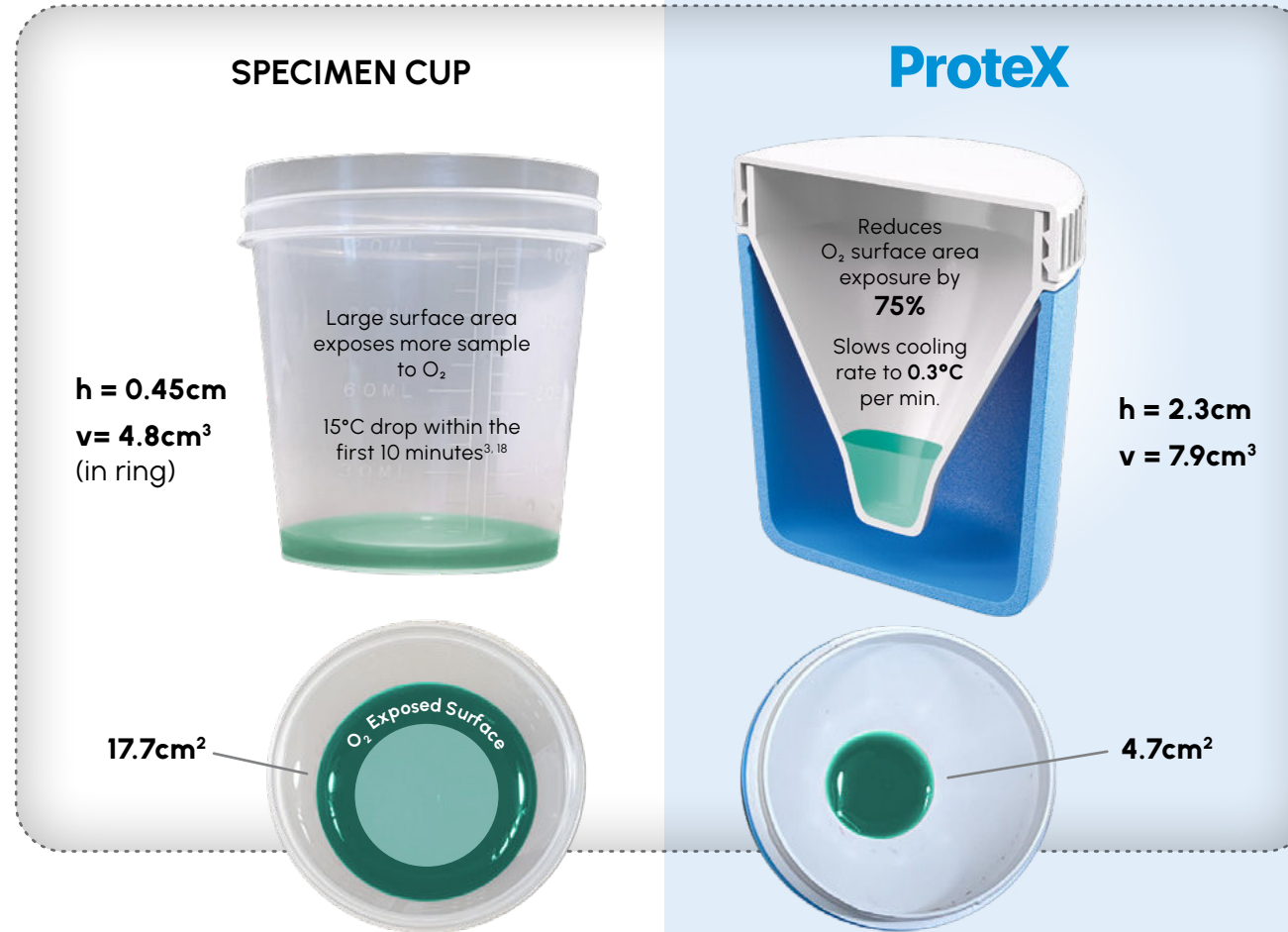
Control pH

- Extends and supplements the seminal fluid natural protection
- Stabilizes the sample up to 48 hours

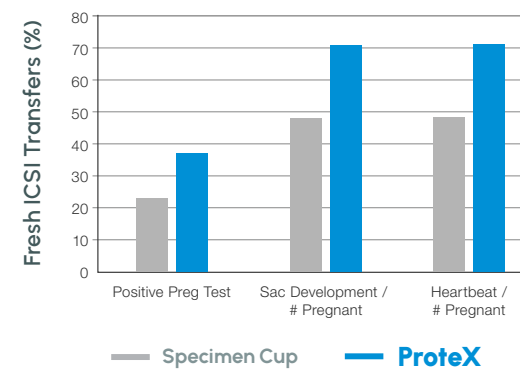
FOR OPTIMAL SPERM COLLECTION

Designed to limit reactions that activate biochemical pathways leading to irreversible sperm damage

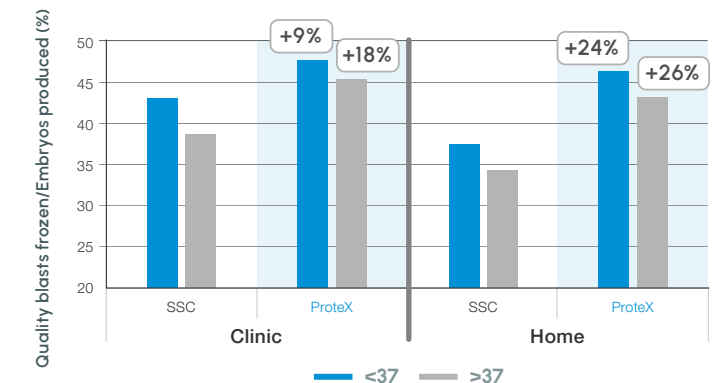
- Provides safe transport from home or clinic satellite locations
- Preserves critical cell membrane integrity and function for IUI and IVF where membrane changes must occur
- For ICSI, it limits the risk of DNA fragmentation and chromosome strand breaks by protecting against ROS damage to chromatin^{15,17}
- Yields a larger pool of healthy and genetically normal sperm with intact acrosomes that improves fertilization capability



More pregnancies advance to heartbeat using ProteX²¹

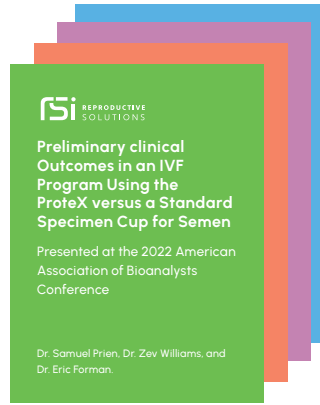


More Useable Blasts Post ICSI with ProteX²¹



REVIEW PROTEX CLINICAL DATA

Browse our library of clinical study results and supporting science.



EVALUATE PROTEX FOR YOURSELF

Order samples to assess ProteX performance for use in your clinic.



EASY DIRECT-TO-PATIENT ORDERING

For at home convenience, patients can order ProteX to be delivered directly to their homes complete with instructions for use. Patients have the choice to have 1 ml of media shipped along with the ProteX.

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