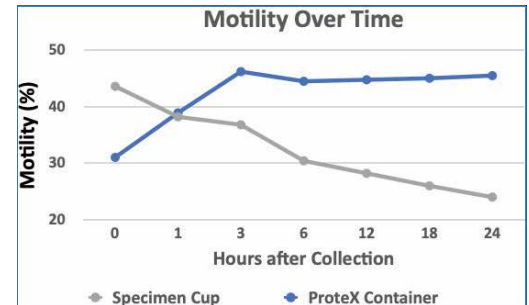


PROTECTS SPERM DURING COLLECTION BY PREVENTING EXPOSURE TO **HARMFUL EXTERNAL ELEMENTS THAT CAUSE DAMAGING CELLULAR STRESS**

Limit Oxidative Stress Induced By

- Drastic temperature changes lead to hyperactivating cell metabolism and CO² generation^{1, 4, 5}
- Over exposure to oxygen in air (21%), VOC's, sunlight²⁵
- Dehydration of sample and changes in osmolarity leading to pH shift¹⁰



Reducing Excessive Reactive Oxidative Species (ROS) Produced¹⁷

- Exposure to air through reduction of surface area and O² diffusion²⁶
- Managing ROS with added media, i.e. Leukocyte generated
- Limiting CO² by maintaining normal cell metabolism^{1, 4, 5}
- Hyperactivation – revving up mitochondria^{1, 4, 5}



Reduces Potential Damage to Spermatozoa Cells

- DNA damage¹⁵
- Membrane damage related to remodeling and exposure to excessive ROS^{23, 24}
- Mitochondrial burnout¹⁶
- Apoptosis¹³



**Well volume 5mL, 2.3cm high
Surface area 4.7cm²**

ProteX Design Difference:

- Surface area – 75% smaller
- Surface area to vol ratio .94
- Reduces diffusion – column of liquid 5X higher
- Safe-seal – avoid liquid sample dispersion in any orientation
- Concentrates the sample, easier to retrieve for ICSI