

DiluPorc™ LongTerm boar semen long-term extender

DiluPorc™ LongTerm is a swine semen extender produced by Sinus Biochemistry & Electrophoresis GmbH. This product has been developed by combining high purity chemicals with a special protein mix, saccharides and phospholipids, which are natural components of swine sperm serum.

The major focus of our work was to replace the widely used bovine serum albumin (BSA) with a superior product that is not isolated from bovine blood. The composition of the product creates an optimal biochemical environment for swine sperm cells to maintain an optimal energy level and full cell integrity.

DiluPorc™ LongTerm is prepared by adding 48 grams of the white powder to 1 L of demineralized water pre-heated to 33-37°C; unused medium may be kept in a refrigerator up to 7 days.

The source of energy of **DiluPorc™ LongTerm** for sperm cells is based on purified glucose, but it contains also a modulator of energy metabolism, allowing the maintenance of motility and maximum performance for a long term.

The buffering action of **DiluPorc™ LongTerm** is due to a strong buffering chemical and to the protein present in the protein mix. This maintains the pH at a level to assure the integrity of sperm cells and that of the extra cellular medium for normal functioning.

Specifications present in the powder have a chelating action and neutralize ions that can damage cell membrane structure or can start a premature acrosome reaction. Minerals and other salt components assure an optimal osmotic pressure for sperm cells to maintain membrane integrity and cell function.

DiluPorc™ LongTerm contains the antibiotic Gentamycin sulphate, which is highly purified and corresponds to the requirements of the pharmaceutical regulations of USP and E.P.

The most powerful component of **DiluPorc™ LongTerm** is the protein mixture, which has several unique properties:

It helps in maintaining osmotic pressure, it helps in maintaining optimal pH and it binds toxic substances that are secreted by bacteria. Further, the antioxidant properties protect sperm cell membranes against oxidation.

Swine sperm cell membranes contain many phospholipids that are vulnerable to lipid oxidation. This oxidation causes damage to the sperm cell which may lead to leakage of metabolites and enzymes that are essential for proper functioning of the sperm cell and fertilization. The protein mixture due to its high molecular structure is also able to bind toxic protein that result from metabolites of dead sperm cells.

Experimental data

DiluPorc™ LongTerm proved to be superior over standard BTS extender as judged from the results of motility determinations over a period of 10 days. A summary of part of our experimental data is presented below.

| Motility percentage (%) | Day 1 | Day 3 | Day 5 | Day 9 |
|--|-------|-------|-------|-------|
| BTS | 71,4 | 70,4 | 68,4 | 47,9 |
| DiluPorc™ LongTerm | 85,0 | 82,9 | 80,5 | 69,6 |
| Progressive Motility percentage (%) | Day 1 | Day 3 | Day 5 | Day 9 |
| BTS | 42,3 | 37,8 | 36,2 | 24,3 |
| DiluPorc™ LongTerm | 76,4 | 73,4 | 68,5 | 57,5 |

Ordering Information:

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| Product |
| DiluPorc™ LongTerm |
| Type |
| boar semen long-term extender |
| Cat. No. |
| 95065 |
| Packaging sizes |
| 1 l, 5 l, 10 l, 50 l, 100 l, other packing sizes on request |

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