For maximum security and performance

Minitube boar semen extenders



preserve semen quality

provide optimal fertility level

protect against stress factors

control bacteria efficiently

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Why are Minitube extenders safer?

The consistently superior quality of Minitube extenders is due to our strict quality control of all raw materials, as well as the batch control of the end product. Each batch of components, and each batch of extender produced, is examined physiochemically for purity, absence of non-intended substances, and for semen preservation properties. Production steps comply with the **rigorous GMP standards**.

Our quality assurance procedures and the complete documentation of all production steps guarantee for:

Quality, security and reliability

- Only original materials of highest quality and purity enter the production chain
- Raw material batches undergo sophisticated purity and spermatology tests
- Mixing and packaging under GMP conditions in dedicated clean room
- Quality control of each produced extender batch in certified reference labs

GOOD MANUFACTURING PRACTICE
GMP
CERTIFIED



Certificates of analysis - including detailed information on physico-chemical properties and antibiotics - are provided on request for each batch.

Don't trust just anyone, trust the only GMP-certified manufacturer of boar semen extender



What is special about Minitube extenders?

- Proven formulations ensure high performance
- Temperature stable during transport and storage
- Excellent solubility in water, easy to dissolve
- Animal protein free
- Convenient and user-friendly packaging
- Made in Germany, under GMP
- Third party tested in accredited laboratory under veterinary supervision*

Minitube extenders: designed to support sperm

Minitube extenders contain specific combinations of antioxidants, salts and sugars, buffering agents, antibiotics and proprietary compounds.

Antioxidants are important molecules that slow down or prevent oxidation, a biochemical process recognized as the major cause of sperm deterioration and death. Antioxidants are found naturally in seminal plasma and some have fertility enhancing properties. Minitube continuously researches the role of specific antioxidants in order to manufacture extenders with the most powerful and effective formulas available.

The **Antibiotics** used in Minitube extenders are proven to be sperm friendly. The availability of various antibiotic additives ensures maximum safety, tailored to your individual requirements and complying with national and international regulations. The antibiotic mixtures allow an efficient control of a large spectrum of bacteria, especially those normally found at boar semen centers.

* Accredited central laboratory for spermatology (DAkkS D-PL-13261-08) according to international standard DIN EN ISO/IEC 17025, including the Mutual Recognition Arrangement by the International Organisation for Accreditation Bodies (ILAC MRA)

DAkkS

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The Minitube star series: superior protection and performance

Minitube star series extenders are designed to enhance the flexibility of semen use, ensuring maximum protection for the best performance. Equipped with a **highly effective pH buffer system**, protective antioxidants and sperm-compatible antibacterial agents, star series extenders preserve fertilizing capacities over a wide temperature range during long term storage.

Cell Shield Protection (CSP®) is a proprietary additive in Androstar® Plus and Androstar® Premium, which provides unparalleled protection for sperm when exposed to temperature fluctuations or physical stress. CSP® actively plays a role in membrane stabilization and protects against premature sperm capacitation.

Being the best extender in the Minitube star series, Androstar® Premium additionally contains an innovative combination of proprietary additives, the most effective pH buffer system, and a newly developed **organic bactericidal supplement (OBS)**. OBS allows decreasing the concentration of antibiotics by 50% while maintaining the effective control of bacteria. With Androstar® Premium, even storage at 5°C is possible*, which also allows the reduction of antibiotics and provides additional protection against physical stress. Androstar® Premium has been shown to alleviate preservation problems with challenging boar lines.

*ask for your cooling protocol

Robustness T^3: Temperature, Transport, Time

- Powerful temperature buffer
- High physical stress resistance
- Long term preservation



	Novistar®	Androstar® Plus	Androstar® Premium
Storage time	+++	++++	+++++
Storage temperature range	15°C-20°C	10°C-25°C	5°C-25°C
Transport stress compensation	+++	++++	++++
Proprietary antioxidants	++	+++	+++++
Cell Shield Protection (CSP®)		+++	++++
Organic bactericidal supplement (OBS)			++++
Buffer system for long term storage	+++	+++	+++++

Novistar®

LONG TERM

Essential extender for boar semen long term preservation

A newly developed, highly efficient pH buffer system and a powerful combination of antioxidants support the sperm cells in long term preservation. Novistar® excells through a novel, equilibrated structure which maintains the fertilizing capacity of sperm from day one at a superior level compared to traditional extenders.

Novistar® is a completely synthetic medium, free from animal protein. It is designed to perform in a temperature range of +15°C to +20°C.

Options

Novistar® with Ampicillin and Apramycin

1 liter	REF. :	13539/0001
5 liters	REF. :	13539/0005
10 liters	REF. :	13539/0010
100 liters	REF. :	13539/0100

Novistar® with Ampicillin, Apramycin and Gentamicin

1 liter	REF. :	13539/1001
5 liters	REF. :	13539/1005
10 liters	REF. :	13539/1010
100 liters	REF. :	13539/1100



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Androstar® Plus

LONG TERM

Plus extender for boar semen long term preservation

Androstar® Plus is the best seller of Minitube's star extenders and garantuees for superior protection. The synthetic conservation medium supports the sperm cells over a long period and protects against the influences of suboptimal transport and storage conditions.

Besides a potent buffer system and an effective combination of antioxidants, Androstar® Plus contains an efficient and well-proven membrane stabilizer. Thus, the sperm cells are less susceptible to damages due to suboptimal and volatile storage temperatures. The temperature limit tolerated by the sperm cells extends to the range of +10°C to +25°C.

Options

Androstar® Plus with Ampicillin and Apramycin

1 liter	REF. : 13531/4001
5 liters	REF. : 13531/4005
10 liters	REF. : 13531/4010
100 liters	REF. : 13531/4100

Androstar® Plus with Gentamicin, Lincomycin and Spectinomycin

1 liter	REF. : 13531/0001
5 liters	REF. : 13531/0005
10 liters	REF. : 13531/0010
100 liters	REF. : 13531/0100

Androstar® Plus with Gentamicin

1 liter	REF. : 13531/1001
5 liters	REF. : 13531/1005
10 liters	REF. : 13531/1010
100 liters	REF. : 13531/1100

Androstar® Plus without antibiotics

1 liter	REF. : 13531/5001
5 liters	REF. : 13531/5005
10 liters	REF. : 13531/5010
100 liters	REF. : 13531/5100



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Androstar® Premium

LONG TERM

Premium extender for boar semen long term preservation

Androstar® Premium is based on an innovative combination of protective molecules. External influences on the sensitive sperm cells are effectively buffered over a wide temperature range.

A newly developed organic bactericidal supplement (OBS) allows **reducing the concentration of antibiotics by 50%** with the same effective control of bacterial contamination. OBS alone in Androstar® Premium without antibiotics is effective against a wide range of bacterial strains and allows antibiotic-free storage of porcine semen doses at 17°C under certain circumstances. Androstar® Premium also enables long term storage at 5°C in order to control resistant bacterial contamination.

Boar studs gain freedom of operation by using Androstar® Premium, which provides greater latitude in acceptable semen temperature fluctuations and processing schemes. Androstar® Premium is the ideal extender for challenging boar lines.

Options

Androstar® Premium with Ampicillin and Apramycin

1 liter	REF. :	13533/3001
5 liters	REF. :	13533/3005
10 liters	REF. :	13533/3010
100 liters	REF. :	13533/3100

Androstar® Premium with Gentamicin, Lincomycin and Spectinomycin

1 liter	REF. :	13533/4001
5 liters	REF. :	13533/4005
10 liters	REF. :	13533/4010
100 liters	REF. :	13533/4100

Androstar® Premium with Gentamicin

1 liter	REF. :	13533/1001
5 liters	REF. :	13533/1005
10 liters	REF. :	13533/1010
100 liters	REF. :	13533/1100

Androstar® Premium without antibiotics

1 liter	REF. :	13533/0001
5 liters	REF. :	13533/0005
10 liters	REF. :	13533/0010
100 liters	REF. :	13533/0100

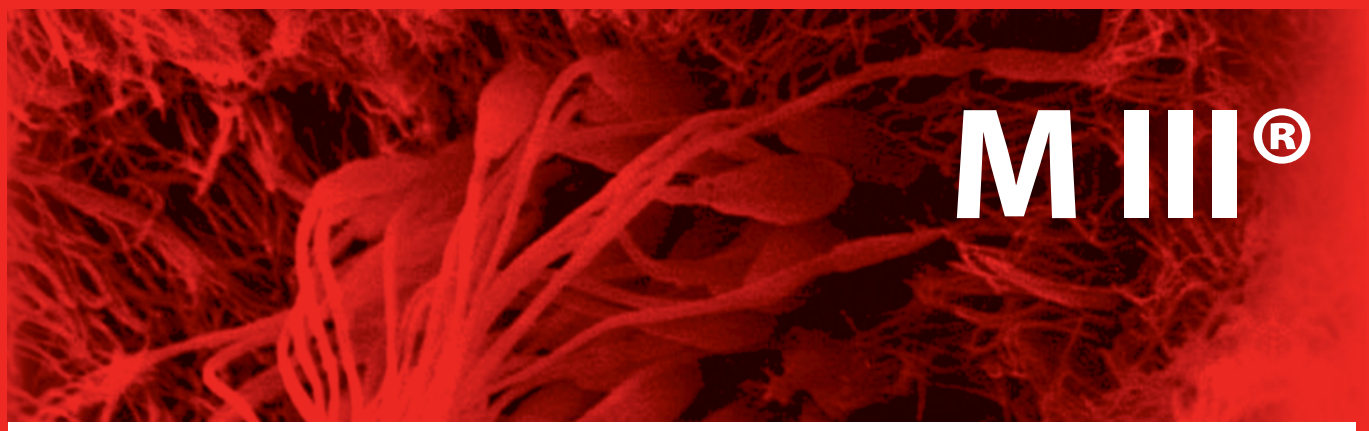


Reduced antibiotic footprint

Reduced risk of bacterial resistance to antibiotics

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M III®

MEDIUM TERM

Balanced extender for boar semen medium term preservation

The M III® formula contains antioxidants that prevent the ageing process of semen cells and the damaging effect of metabolites in the conservation medium. It optimizes fertility results during the first 48 hours compared with standard semen extenders. A potent buffer system provides stable pH during the entire storage period.

Options

M III® with Gentamicin

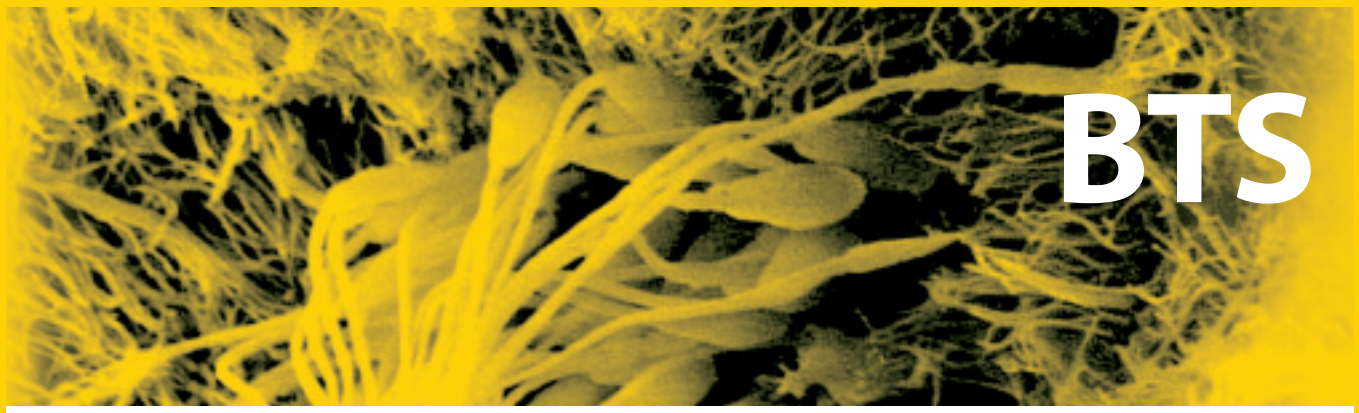
1 liter	REF. :	13515/0001
5 liters	REF. :	13515/0005
10 liters	REF. :	13515/0010
83 liters	REF. :	13515/0083

M III® with Ampicillin, Apramycin and Gentamicin

1 liter	REF. :	13515/8001
5 liters	REF. :	13515/8005
10 liters	REF. :	13515/8010
83 liters	REF. :	13515/8083



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BTS

SHORT TERM

State-of-the-art extender for boar semen short term preservation

BTS is the state-of-the-art extender for short term preservation of boar semen. The classic formula improved by Minitube provides a balanced medium applicable under all practical conditions. The availability of various antibiotic additives ensures maximum safety.

Options

BTS with Gentamicin

1 liter	REF. :	13525/0001
5 liters	REF. :	13525/0005
10 liters	REF. :	13525/0010
20 liters	REF. :	13525/1020
100 liters	REF. :	13525/1100

BTS Forte with Lincomycin and Spectinomycin

1 liter	REF. :	13525/6001
5 liters	REF. :	13525/6005
10 liters	REF. :	13525/6010
100 liters	REF. :	13525/6100

BTS Extra with Lincomycin and Gentamicin

1 liter	REF. :	13525/7001
5 liters	REF. :	13525/7005
10 liters	REF. :	13525/7010
100 liters	REF. :	13525/7100

BTS with Gentamicin and Amoxicillin

1 liter	REF. :	13525/5101
5 liters	REF. :	13525/5105
10 liters	REF. :	13525/5110
20 liters	REF. :	13525/5120
100 liters	REF. :	13525/5100

BTS without antibiotics

50 liters	REF. :	13525/2050
100 liters	REF. :	13525/0100



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