

# Sperm Gender Selection Beads

Micro-sized particles with charge capabilities for sorting X from Y spermatozoa and vice versa according to suspension buffer pH.

### Suitable for

- Elevating Preimplantation Genetic Diagnosis required gender signal odds after ICSI (Human)
- Increasing Livestock and dairy production via X spermatozoa selection before IUI (Animal use)

Latest study on equine <https://www.sciencedirect.com/science/article/pii/S0737080617307037>

### Product Characteristics

- Very simple procedure of use. (washing --> Incubation --> Magnetic separation --> ICSI)
- Gentle separation, no cell damage, no shearing of nucleic acids.
- Compatible with flow cytometry, PCR & F.I.S.H
- Rapid magnetic response.
- Efficient size.
- No particle shedding during wash.
- Preserved in Sodium Azide for maximum sterilization

### Storage and Stability

Store containers when not in use at 4°C. Shelf life for maximum efficiency is 3-4 months and maybe extended by changing out the suspension media monthly. While there are no preservatives in the particle solution, you may add sodium azide at 0.02% for longer term storage of 7 months. Remember to wash out the sodium azide twice before use.

### For more information

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In-vivo Fertility rates and numbers using Sex Sorted semen with Nano-particles														
	Mares + Stallion Semen								Mares + Donkey Semen		Jennies + Donkey Semen			
	Direct Pregnancies			Embryo Transfer					# A.I	# Pregnancies	Fertility rate /cycle	# A.I	# Pregnancies	Fertility rate /cycle
# A.I	# Pregnancies	Fertility rate /cycle	# A.I	# Flushings (+)	% Embryo Recovery	# Pregnancies	% Total Efficiency							
FRESH SEMEN	19	16	84.21%	17	14	82.35%	11	64.71%	8	5	62.50%	1	1	100.00%
COOLED SEMEN	18	13	72.22%	48	39	81.25%	31	64.58%						
FROZEN SEMEN	4	3	75.00%	3	2	66.67%	2	66.67%				1	0	0.00%
<b>TOTAL A.I</b>	<b>119</b>													
<b>TOTAL PREGNANCIES</b>	<b>82</b>													

In-vivo results of gender determination at 125 days of gestation and at Foaling	
Number of pregnancies	82
Number of pregnancies gender determined at 65 and/or 125 days	44
Positive Filly gender determined at 125 days	42 95%
Positive Colt gender determined at 125 days	2 5%
Number of foalings until today	22
Number of fillies born until today	22 100%

In-vitro results for X-sperm sorting Efficacy of N.P in Equine and Donkey Semen			
Average % of X sperm after N.P sex sorting protocol			
EQUINE		DONKEY	
determined by FISH	91.50%	determined by FISH	NON
determined by FLOW CITOMETRY	90.40%	determined by FLOW CITOMETRY	94.70%
determined by Taq-PCR	94.10%	determined by Taq-PCR	NON

### FISH Summary of Human Nano Particles Sex Chromosome Sorting Experiments.

#### 1000 sperm assessed/sample with FISH

Table 1. Mean Values for Sex Chromosome Proportions in Neat and Nano Sorted Human Sperm Samples (n=3)

Sample	X Sperm (%)	Y Sperm (%)
Neat	49.5%	50.5%
Sorted	39.9%	60%

Table 2. Raw data for Human Sperm FISH Study

Sample	X		Y		XY % Aneuploid
	No.	%	No.	%	
Neat #1	577	54%	480	46%	0.3%
Sorted #1	380	37.8%	625	62%	0.2%
High Neat #2	440	44%	560	56%	0.0%
High Sorted #2	369	37%	630	63%	0.1%
Combo Neat #3	517	50.4%	507	49.4%	0.1%
Combo Sorted #3	450	45%	549	55%	0.1%

