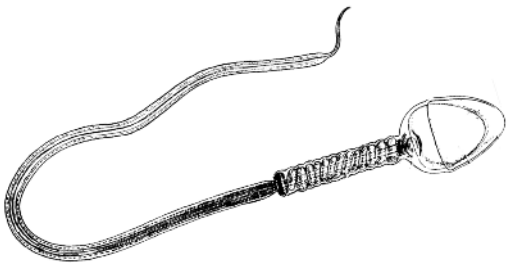
MTG



OCTAX cytoScreen™

Affordable IMSI through digital image enhancement

- ü Compatible with existing ICSI microscopes, no DIC required
- ü Computer-enhanced high-magnification microscopy for morphology based sperm selection
- ü Dry IMSI - no oil immersion, no cleaning
- ü Cost effective integration into your existing OCTAX environment (camera, EyeWare imaging software)
- ü Total magnification adjustable, up to 7,200 x

OCTAX cytoScreen™ enhanced image of a sperm in high magnification, showing one large and two small vacuoles.

MEDICAL TECHNOLOGY VERTRIEBS-GMBH

LGA InterCert Certified Quality System ISO 9001:2008

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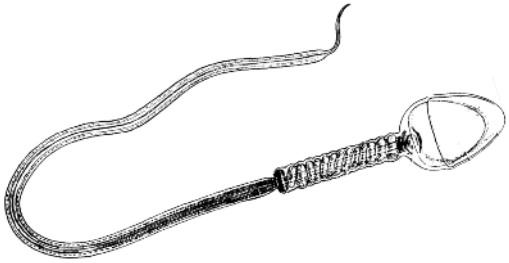


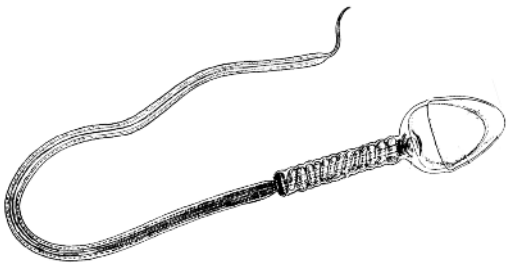
cytoScreen™ comparison chart

I. System components

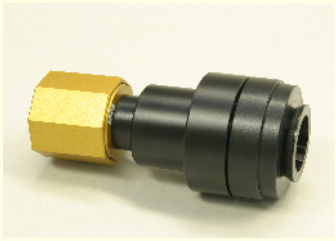
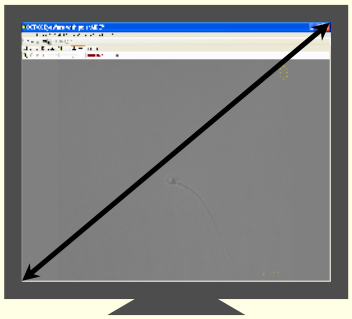
	OCTAX cytoScreen™	Other „IMSI“ Systems
Condenser	Existing Hoffman´s or relief contrast Cost saving solution, condenser supports all potential applications	DIC (Nomarski) Expensive, inconvenient for performing ICSI
Objective	60x Large field of view allows sperm immobilization without changing magnification	100x Manipulation of sperm typically requires change of objective
Camera	1.3 or 3.0 Megapixel	As per manufacturer´s specification
Software	Image database, one button image capture, biometric measurement tools, one button online zoom-in function, adjustable image enhancement OCTAX polarAIDE™ spindle and zona imaging system and OCTAX Laser Shot™ microsurgical laser can be integrated into the same software environment	As per manufacturer´s specification No integration of IMSI, spindle imaging and laser into one software

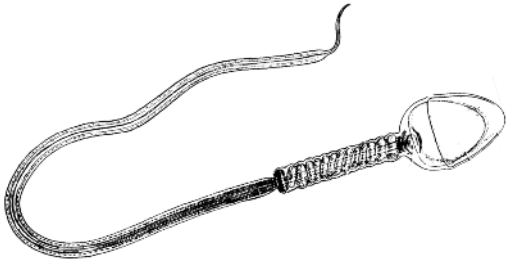
II. Features and performance

	OCTAX cytoScreen™	Other „IMSI“ Systems
Oil immersion	No Easy handling, no cleaning, works with or without heated glass plate	Yes Handling more complicated, cannot be combined with heated glass plates
Sharpness of the image	Satisfactory, limited by the physical characteristics of the 60x objective, improved through digital image processing of the live video	Good, due to the physical characteristics of oil immersion and 100x objective
Total magnification on the screen	> 10,000x with Intermediate magnification 1.6x For practical reasons, the optimum range of magnification is between 5,000x and 7,000x	> 10,000x with intermediate magnification 1.6x
Analysis of sperm head shape and vacuoles	Feasible without restrictions	Feasible without restrictions
Dishes required	Glass bottom dishes	Glass bottom dishes
Compatibility	Can be mounted to most current inverted microscope models used for ICSI	Specially designed for one microscope brand only



cytoScreen™ magnification steps

	Single	Total
 Objective	60 x	60 x
 Camera ½ “/ c-mount	1 x	60 x
 Monitor, e.g., 17“	30 x	1,800 x
 Digital zoom (adjustable)	4 x	7,200 x



Publications on IMSI / MSOME

IMSI: intracytoplasmic morphologically selected sperm injection

MSOME: morphological selection of motile spermatozoa

Antinori M, Licata E, Dani G, Cerusico F, Versaci C, d'Angelo D, Antinori S (2008) Intracytoplasmic morphologically selected sperm injection: a prospective randomized trial. Reprod Biomed Online 16(6):835-841.

Bartoov B, Berkovitz A, Eltes F (2001) Selection of spermatozoa with normal nuclei to improve the pregnancy rate with intracytoplasmic sperm injection. N Engl J Med 345(14):1067-1068.

Bartoov B, Berkovitz A, Eltes F, Kogosowski A, Menezo Y, Barak Y (2002) Real-time fine morphology of motile human sperm cells is associated with IVF-ICSI outcome. J Androl 23(1):1-8.

Bartoov B, Berkovitz A, Eltes F, Kogosovsky A, Yagoda A, Lederman H, Artzi S, Gross M, Barak Y (2003) Pregnancy rates are higher with intracytoplasmic morphologically selected sperm injection than with conventional intracytoplasmic injection. Fertil Steril 80(6):1413-1419.

Berkovitz A, Eltes F, Yaari S, Katz N, Barr I, Fishman A, Bartoov B (2005) The morphological normalcy of the sperm nucleus and pregnancy rate of intracytoplasmic injection with morphologically selected sperm. Hum Reprod 20(1):185-190.

Berkovitz A, Eltes F, Ellenbogen A, Peer S, Feldberg D, Bartoov B (2006) Does the presence of nuclear vacuoles in human sperm selected for ICSI affect pregnancy outcome? Hum Reprod 21(7):1787-1790.

Berkovitz A, Eltes F, Lederman H, Peer S, Ellenbogen A, Feldberg B, Bartoov B (2006) How to improve IVF-ICSI outcome by sperm selection. Reprod Biomed Online 12(5):634-638.

Franco JG Jr, Baruffi RLR, Mauri AL, Petersen CG, Oliveira JBA, Vagnini L (2008) Significance of large nuclear vacuoles in human spermatozoa: implications for ICSI. Reprod Biomed Online 17(1):42-45.

Garolla A, Fortini D, Menegazzo M, De Toni L, Nicoletti V, Moretti A, Selice R, Engl B, Foresta C (2008) High-power microscopy for selecting spermatozoa for ICSI by physiological status. Reprod Biomed Online 17(5):610-616.

Hazout A, Dumont-Hassan M, Junca AM, Cohen Bacrie P, Tesarik J (2006) High-magnification ICSI overcomes paternal effect resistant to conventional ICSI. Reprod Biomed Online 12(1):19-25.

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