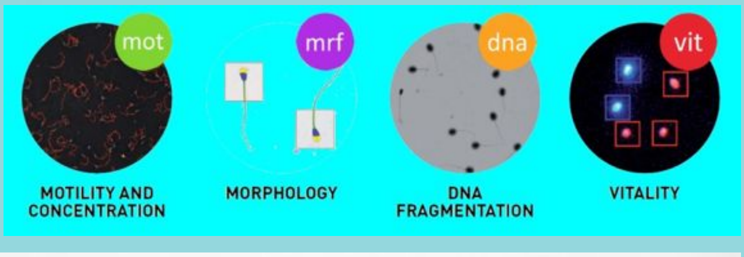
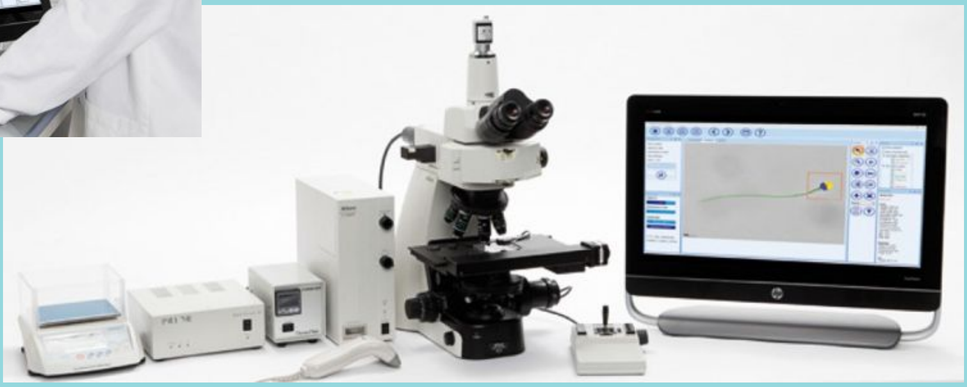
MICROPTIC
AUTOMATIC DIAGNOSTIC SYSTEMS

CASA
SPERM CLASS ANALYZER

精子機能解析・形態解析システム


mot
mrf
dna
vit
MOTILITY AND CONCENTRATION
MORPHOLOGY
DNA FRAGMENTATION
VITALITY



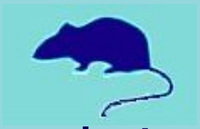
更に進化した
SCA® CASA System は
精子機能解析法としての、濃度分析、運動性分析、形態分析、DNA 断片化分析、生死判定分析 などを高精度、迅速に自動分析いたします。ユーザーフレンドリー,安価な世界のスタンダードシステムとして、クリニック、畜産試験所、海洋試験所で多くのユーザーに親しまれています。

Human

Following parameters of WHO laboratory manual. Suitable for hospitals, fertility clinics and laboratories

Veterinary

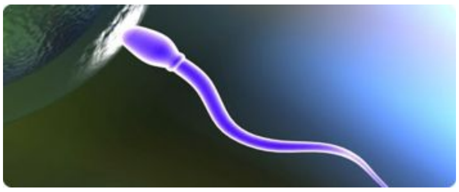
Analyses all kind of sperm: Mammals,birds, reptiles, amphibians, fish.



Toxicology

Specialized system for toxicology centers working with mouse and rat.

http://www.neuro-s.co.jp
NEUROSCIENCE,INC.
株式会社 ニューロサイエンス



SCA EVOLUTION

■革新的な精子機能解析システムに進化
■ユーザーフレンドリーな操作プラットホーム
■豊富なアプリケーションソフトで、目的･用途に応じて構築可能できますので安価です
■精子機能解析法としての、濃度分析、運動性分析、形態分析、DNA 断片化分析、生死判定分析 などを自在に選択可能

【 解析項目の一例】

運動性･濃度解析

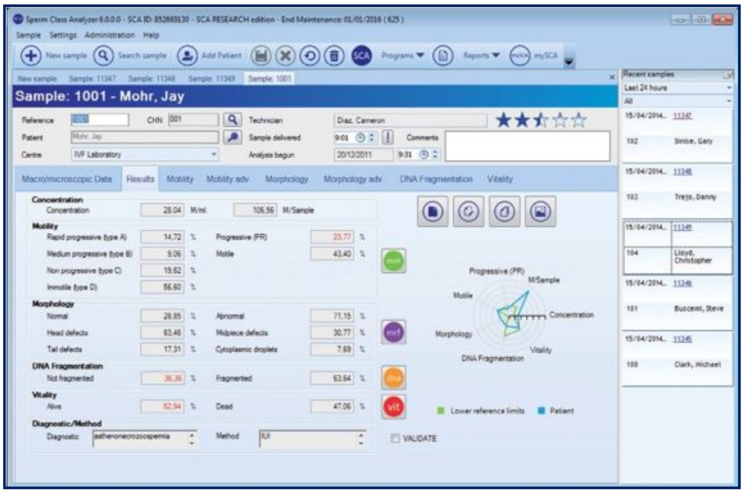
◆VCL：精子曲線地点移動平均 (μm/s)
◆VSL：精子直線地点移動平均 (μm/s)
◆VAP：精子進行方向性速度平均 (μm/s)
◆LIN：直線性の平均 (%) ◆STR: 直線係数平均 (%)
◆ALH: 精子頭部の平均振幅 (μm) ◆BCF: 精子頭部の振幅回数 (Hz) ◆Progression ：Static,Non-Progressive,Progressive motile 3 分類
◆Velocity：Rapid,Medium,Slow,Static 4 分類 ◆W.H.O 基準 ： Fast,Slow,Non,Immotile 4 分類

形態解析

◆Normal,Abnormal 自動判定 ◆Head,Midpiece,Tail 欠損自動判定
◆Head：長さ、幅、面積、外周長自動解析 ◆Midpiece ： 面積、幅

DNA 断片化解析

◆断片化の自動判定 ◆Without halo,Small halo,Medium halo,Big halo,Degraded の自動判定


Sperm Class Analyzer 6.0.0.0 - SCA ID: 852660130 - SCA RESEARCH edition - End Maintenance: 01/01/2016 (625)

Sample: 1001 - Mohr, Jay

Reference: 1001
CHN: 001
Technician: Diaz, Cameron
Patient: Mohr, Jay
Sample delivered: 9:01
Centre: IVF Laboratory
Analysis begun: 20/12/2011 9:31

Concentration
Concentration: 28.04 M/ml 106.56 M/Sample

Motility
Rapid progressive (type A): 14.72 %
Medium progressive (type B): 9.06 %
Non progressive (type C): 19.62 %
Immotile (type D): 56.60 %
Progressive (PR): 23.77 %
Motile: 43.40 %

Morphology
Normal: 28.85 %
Head defects: 63.46 %
Tail defects: 17.31 %
Abnormal: 71.15 %
Midpiece defects: 30.77 %
Cytoplasmic droplets: 7.69 %

DNA Fragmentation
Not fragmented: 36.36 %
Fragmented: 63.64 %

Vitality
Alive: 52.94 %
Dead: 47.06 %

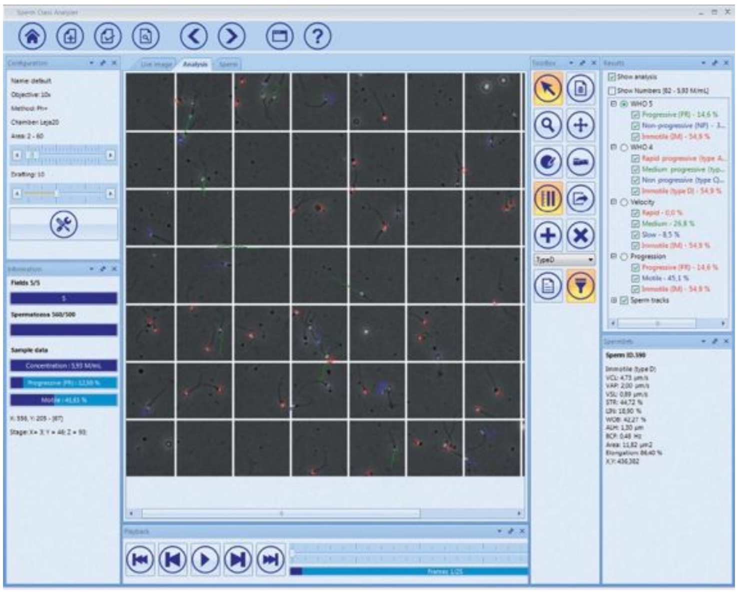
Diagnostic/Method
Diagnostic: asthenonecrozoospermia
Method: IUI

☐ VALIDATE

Recent samples: Last 24 hours, All
15/04/2014 11347 — 102 Sinise, Gary
15/04/2014 11348 — 103 Trejo, Danny
15/04/2014 11349 — 104 Lloyd, Christopher
15/04/2014 11346 — 101 Buscemi, Steve
15/04/2014 11345 — 100 Clark, Michael

Sample Settings Administration Help
New sample
Search sample
Add Patient
Programs
Reports
mySCA
New sample Sample: 11347 Sample: 11348 Sample: 11349 Sample: 1001
Comments
Macro/microscopic Data Results Motility Motility adv. Morphology Morphology adv. DNA Fragmentation Vitality
mot
morf
dna
vit
Progressive (PR)
M/Sample
Motile
Concentration
Morphology
Vitality
DNA Fragmentation
Lower reference limits
Patient

■高速度デジタルカメラ(75･100 画像/秒)の採用により、精子運動解析が高精度に
■リアルタイム解析、保存生画像ファイルを高速に、視覚的に観察し易い、データ解析プラットホーム進化
■電動ステージ(オプション)により、測定チャンバー領域の自動解析が可能
■WHO 解析基準に適応した解析法に準拠
■バーコードリーダ(オプション)により、誤入力のない多量検体解析に対応


Sperm Class Analyzer
Configuration
Live image Analysis Sperm
Toolbox
Results
Show analysis
WHO 5
WHO 4
Velocity
Progression
Sperm tracks
Information
Playback

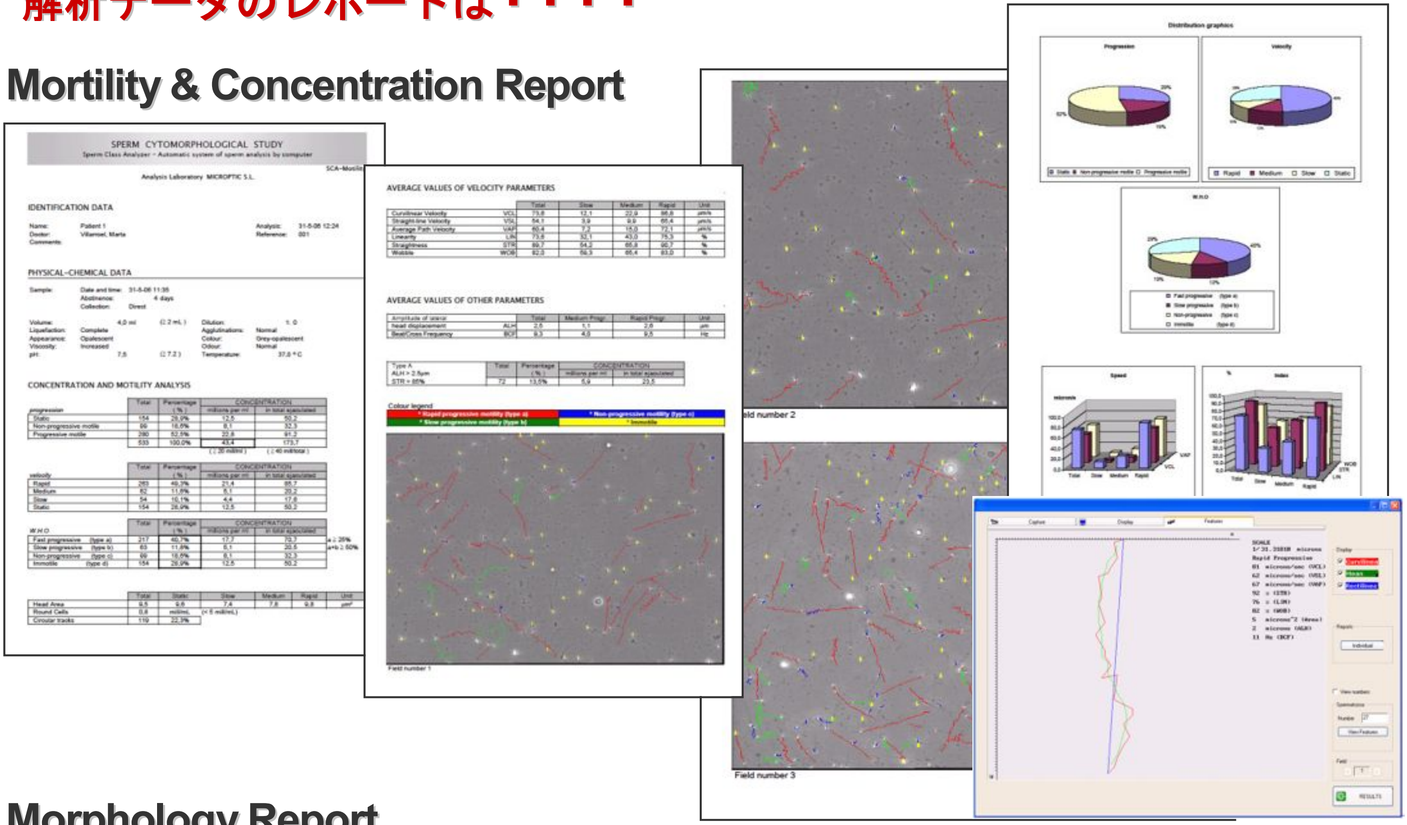
人、畜産、実験動物への精巣毒性、海洋研究など用途に対応します・・・

Human Animal Bear Boar Bull
Dog Donkey Fish Goat Lion
Mouse Rabbit Ram Rat
Red deer Stallion

詳細はメーカーWebにご覧ください。 www.micropticsl.com

解析データのレポートは・・・・

Mortility & Concentration Report



SPERM CYTOMORPHOLOGICAL STUDY
Sperm Class Analyzer – Automatic system of sperm analysis by computer

SCA-Motility

Analysis Laboratory MICROPTIC S.L.

IDENTIFICATION DATA

Name:	Patient 1	Analysis:	31-5-06 12:24
Doctor:	Villarroel, Marta	Reference:	001
Comments:			

PHYSICAL-CHEMICAL DATA

Sample: Date and time: 31-5-06 11:35
Abstinence: 4 days
Collection: Direct

Volume:	4,0 ml	(≥ 2 mL)	Dilution:	1: 0
Liquefaction:	Complete		Agglutinations:	Normal
Appearance:	Opalescent		Colour:	Grey-opalescent
Viscosity:	Increased		Odour:	Normal
pH:	7,5	(≥ 7,2)	Temperature:	37,0 ºC

CONCENTRATION AND MOTILITY ANALYSIS

progression	Total	Percentage (%)	CONCENTRATION millions per ml	CONCENTRATION in total ejaculated
Static	154	28,9%	12,5	50,2
Non-progressive motile	89	16,6%	8,1	32,3
Progressive motile	290	54,5%	22,8	91,2
	533	100,0%	43,4	173,7
			(≥ 20 mill/ml)	(≥ 40 mill/total)

velocity	Total	Percentage (%)	CONCENTRATION millions per ml	CONCENTRATION in total ejaculated
Rapid	263	49,3%	21,4	85,7
Medium	62	11,6%	5,1	20,2
Slow	54	10,1%	4,4	17,6
Static	154	28,9%	12,5	50,2

W.H.O		Total	Percentage (%)	CONCENTRATION millions per ml	CONCENTRATION in total ejaculated	
Fast progressive	(type a)	217	40,7%	17,7	70,7	a ≥ 25%
Slow progressive	(type b)	63	11,8%	5,1	20,5	a+b ≥ 50%
Non-progressive	(type c)	89	16,6%	8,1	32,3	
Immotile	(type d)	154	28,9%	12,5	50,2	

	Total	Static	Slow	Medium	Rapid	Unit
Head Area	9,5	9,6	7,4	7,8	9,8	µm²
Round Cells	0,8	mill/mL	(< 5 mill/mL)			
Circular tracks	119	22,3%				

AVERAGE VALUES OF VELOCITY PARAMETERS

AVERAGE VALUES OF OTHER PARAMETERS

Colour legend

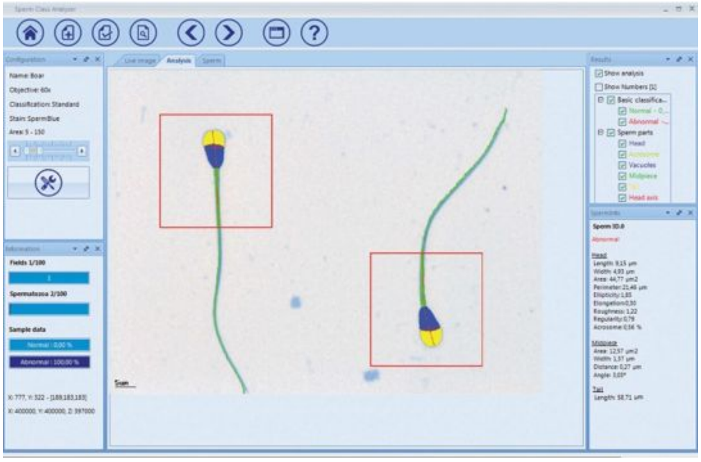
Field number 1

Field number 2

Field number 3

Distribution graphics

Morphology Report



HEAD

Size (1)
- Lenght: 4.87 microns
- Width: 3.46 microns
- Area: 13.59 microns²
- Perimeter: 13.86 microns

Shape (2)
- Ellipticity: 1.41
- Elongation: 0.17
- Roughness: 0.89
- Regularity: 0.97

Grey level: 160

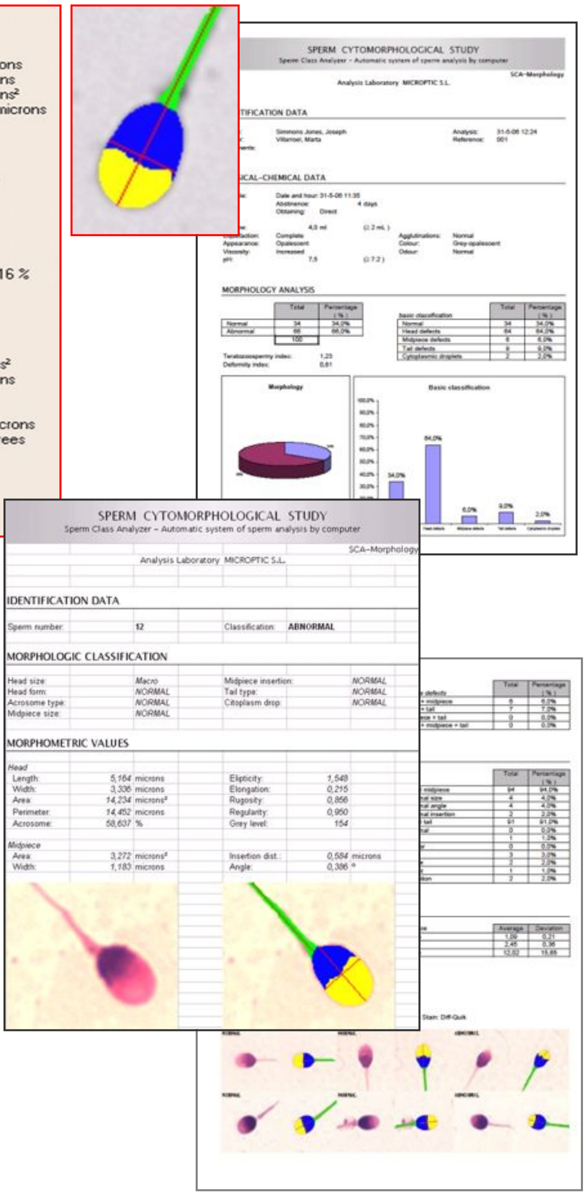
ACROSOME (3): 57.16 %

MIDPIECE

Size (4)
- Area: 2.03 microns²
- Width: 1.01 microns

Insertion (5)
- Distance: 0.18 microns
- Angle: 14.76 degrees

- Zal: 50.94 %
- Bill: 33.96 %
- e90: 0.83



SPERM CYTOMORPHOLOGICAL STUDY
Sperm Class Analyzer – Automatic system of sperm analysis by computer

SCA-Morphology

Analysis Laboratory MICROPTIC S.L.

IDENTIFICATION DATA

Sperm number:	12	Classification:	**ABNORMAL**

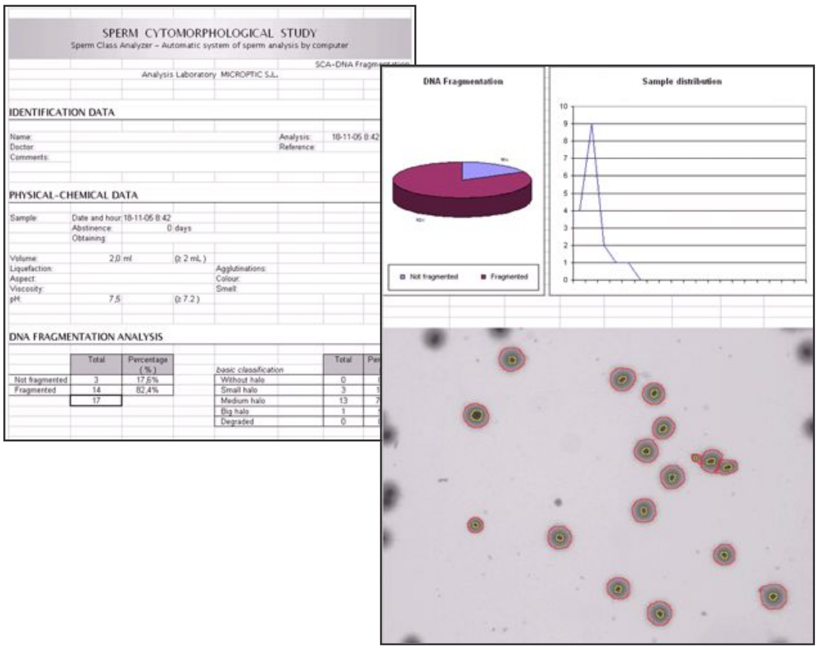
MORPHOLOGIC CLASSIFICATION

Head size:	*Macro*	Midpiece insertion:	*NORMAL*
Head form:	*NORMAL*	Tail type:	*NORMAL*
Acrosome type:	*NORMAL*	Citoplasm drop:	*NORMAL*
Midpiece size:	*NORMAL*		

MORPHOMETRIC VALUES

Head					
Length:	*5,164*	microns	Elipticity:	*1,548*	
Width:	*3,336*	microns	Elongation:	*0,215*	
Area:	*14,234*	microns²	Rugosity:	*0,856*	
Perimeter:	*14,452*	microns	Regularity:	*0,950*	
Acrosome:	*58,637*	%	Grey level:	*154*	
Midpiece					
Area:	*3,272*	microns²	Insertion dist.:	*0,584*	microns
Width:	*1,183*	microns	Angle:	*0,386*	º

DNA Fragmentation Report



SPERM CYTOMORPHOLOGICAL STUDY
Sperm Class Analyzer – Automatic system of sperm analysis by computer

SCA-DNA Fragmentation

Analysis Laboratory MICROPTIC S.L.

IDENTIFICATION DATA

Name:		Analysis:	18-11-05 8:42
Doctor:		Reference:	
Comments:			

PHYSICAL-CHEMICAL DATA

Sample: Date and hour: 18-11-05 8:42
Abstinence: 0 days
Obtaining:

Volume:	2,0 ml	(≥ 2 mL)	
Liquefaction:			Agglutinations:
Aspect:			Colour:
Viscosity:			Smell:
pH:	7,5	(≥ 7,2)	

DNA FRAGMENTATION ANALYSIS

	Total	Percentage (%)
Not fragmented	3	17,6%
Fragmented	14	82,4%
	17	

basic classification	Total
Without halo	0
Small halo	3
Medium halo	13
Big halo	1
Degraded	0

精子解析システムのアクセサリー群

Nikon Eclipse E200-LED

Simple slide warmer

Motorized Stage Prior OptiScan™

Barcode reader

Basler Ace ACA780-75gc

Basler Aviator AVA1000-100gc

Leja dispo counting chambers

Sperm DNA Fragmentation test

精子解析ソフトのモジュールは・・目的・ご予算によって選択できます

AUTOMATIC ANALYSIS MODULES	
SCA® Motility and concentration	Analysis of the motility, concentration and kinematic parameters
SCA® Morphology	Analysis of the morphology and morphometry in stained sperm samples
SCA® DNA Fragmentation	Analysis of the DNA fragmentation with the chromatine dispersion test
SCA® Vitality	Analysis of the vitality under fluorescence
SCA® Droplets	Analysis of the cytoplasmic droplets and coiled tails
SCA® Acrosome integrity	Analysis of the acrosome integrity in phase contrast with the 40x objective
ADDITIONAL MODULES	
SCA® Sample Management	Management of the database and reports generator
SCA® DataShare	It enables the internal SCA® database sharing and the connection with any LIS
SCA® Stage Controller	Fully automation using motorized stage
SCA® Manual Counter	Manual counter of any biological sample
COMPLEMENTARY SYSTEMS (To be used in combination with a main analysis system)	
SCA® Capture	Unitary module for image capture
SCA® Editor	Module for analysis modification
SCA® Viewer	Free software for image visualization

MINIMUM SCA® AND SCA® PRODUCTION REQUIREMENTS

	SCA Motility and Concentration	**SCA Morphology**	**SCA DNA Fragmentation**	**SCA Vitality**	**SCA Production**
COMPUTER	Desktop or laptop: Operating system Windows 7 or 8 (32 or 64 bits), Processor: Intel i3 or higher, RAM: 2GB or higher, DVD-ROM, Gigabit Ethernet or PCIe Port				
CAMERA	Basler Ace acA780-75gc or Basler Aviator avA1000-100gc				Basler Ace acA780-75gc
MICROSCOPE	Nikon or Olympus, Trinocular tube 1x, C-mount 1x, turret condenser and centering telescope				
OBJETIVE*	10x	100x oil immersion /60x	20x	20x	10x ph-, 20x ph+, 40x ph+
OBSERVATION METHOD	Negative phase contrast or fluorescence	Brightfield	Brightfield or fluorescence	Fluorescence	Negative and positive phase contrast
FILTERS	Green filter / Fluorescence: Bandpass filter (EX 330-380, EM420, DM 400)	Blue filter	Green filter / Fluorescence: Bandpass filter (EX 510-560, EM 590, DM 565)	Bandpass filter (EX 330-380, EM 420, DM 400)	Green filter

製造元

MICROPTIC
AUTOMATIC DIAGNOSTIC SYSTEMS

日本総代理店

http://www.neuro-s.co.jp
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