SCA

EVOLUTION

CASA
SPERM CLASS ANALYZER

MICROPTIC

AUTOMATIC DIAGNOSTIC SYSTEMS

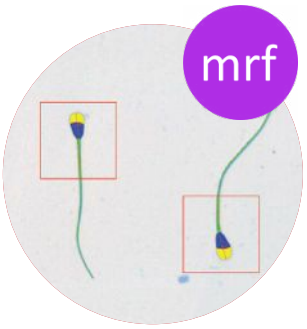
MICROPTIC, 20 YEARS SPECIALIZED IN THE SEMEN ANALYSIS

Innovator in the development of the world's most advanced CASA (Computer aided semen analysis) system. With a dynamic and highly qualified staff, we develop our products in collaboration with research centres of great impact in the sector.

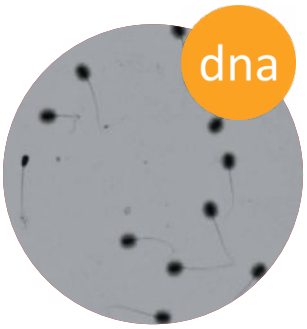
SCA®, THE MOST ADVANCED MODULAR CASA

SCA® is a modular automatic analysis system for the **concentration, motility, morphology, DNA fragmentation** and **vitality** of the semen samples.

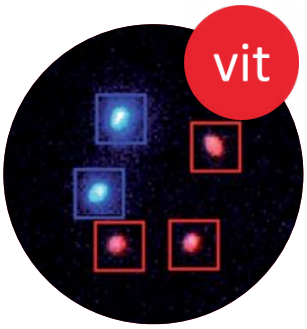
MOTILITY AND CONCENTRATION



MORPHOLOGY



DNA FRAGMENTATION



VITALITY

RELIABLE AND RAPID ANALYSIS

Allows the accurate and objective analysis of a **wide range** of sperm kinematic, morphologic, DNA and vitality **parameters** as well as develop **new analysis settings** that adapt to new animal species or races.

STANDARDIZATION AND TRACEABILITY

SCA® allows the analysis standardization, results recording and traceability, obtaining reliable data and thus minimizing the risk due to the human factor.

RELIABLE DATA FOR SCIENTIFIC PAPERS

SCA® system has been widely used in animal research[1], being versatile enough to suit a wide range of animal species, from invertebrates to mammals, including rodents, even has proven to be useful in the study of microalgae growth.

AUTOMATION

With motorized stage, the analysis process is fully automatic enabling the examination of 4 slides or counting chambers consecutively, without the presence of the technologist.

SCA® TOXICOLOGY COMPLIES THE NORM 21 CFR11

SCA® is ready for the automatic analysis of rat and mouse sperm. Contains all files needed for the safety and regulatory documentation for the 21 CFR11 compliance and has been validated in centres of great impact.

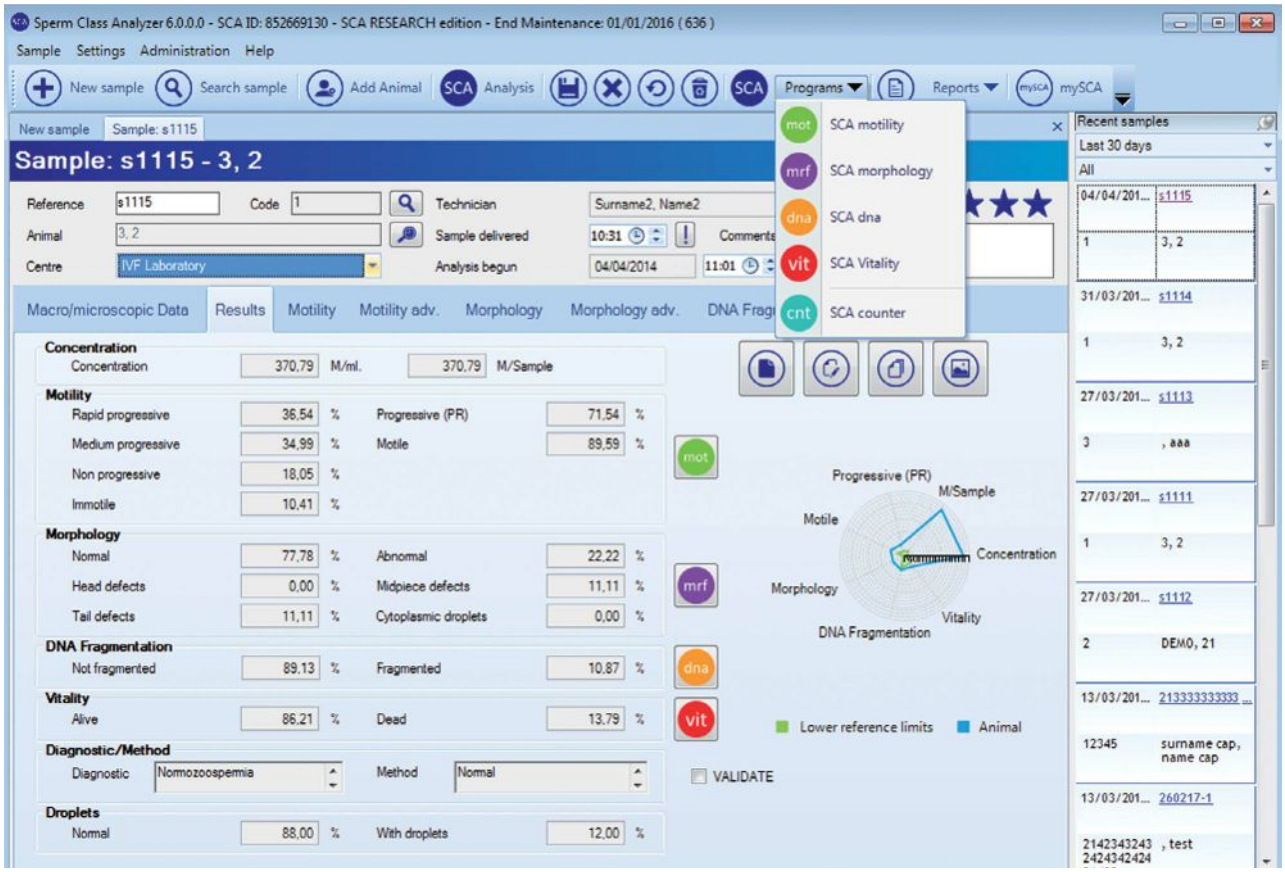
PORTABLE SYSTEM

The laptop configuration allows the SCA® to be **transported anywhere in the field,** enabling e.g. animal fertility studies during the breeding season, in situ.

[1](AF Malo , JJ Garde , AJ Soler , AJ García , M Gomendio , ER Roldan , Biology of Reproduction, 2004; G van der Horst, L Maree, Biotech Histochem, 2011; G van der Horst, L Maree, SH Kotzé and M J O'Riain, BMC Evolutionary Biology, 2011; I. Luedersa, I. Lutherb,c, G. Scheepersd, G. van der Horst, Theriogenology, 2012; J G Martínez, V Atencio García , S Pardo Carrasco, Neotropical Ichtylogy, 2012; AFortunato, R Leo, S Casale, G Nacchia, F Liguori, E Tosti, Journal of Fertilization, 2013; M Ramón , AJ Soler , Ortiz JA, O García-Alvarez , A Maroto-Morales , Roldan ER, JJ Garde , Biology of Reproduction,2013)

SCA® EVOLUTION INNOVATIONS

Since it was launched in 1997, the SCA® sperm analyzer has been in continuous development, improving in each version the analysis algorithms, and including the latest state-of-the-art technology and ultimate research findings. Find here some of the last innovations:



ADVANCED ANALYSIS

SCA® evolution contains many innovations in animal sperm analysis including: Rapid **morphology analysis of droplets and coiled tails;** acrosome integrity under phase contrast; **intelligent filter** for sperm detection; **fluorescence analysis** in concentration and motility, **DNA fragmentation** and vitality; **morphology and morphometry** of stained samples, including analysis of the tail length.

NEW INTERFACE

The design of the new application is fully customizable, making it user-friendly.

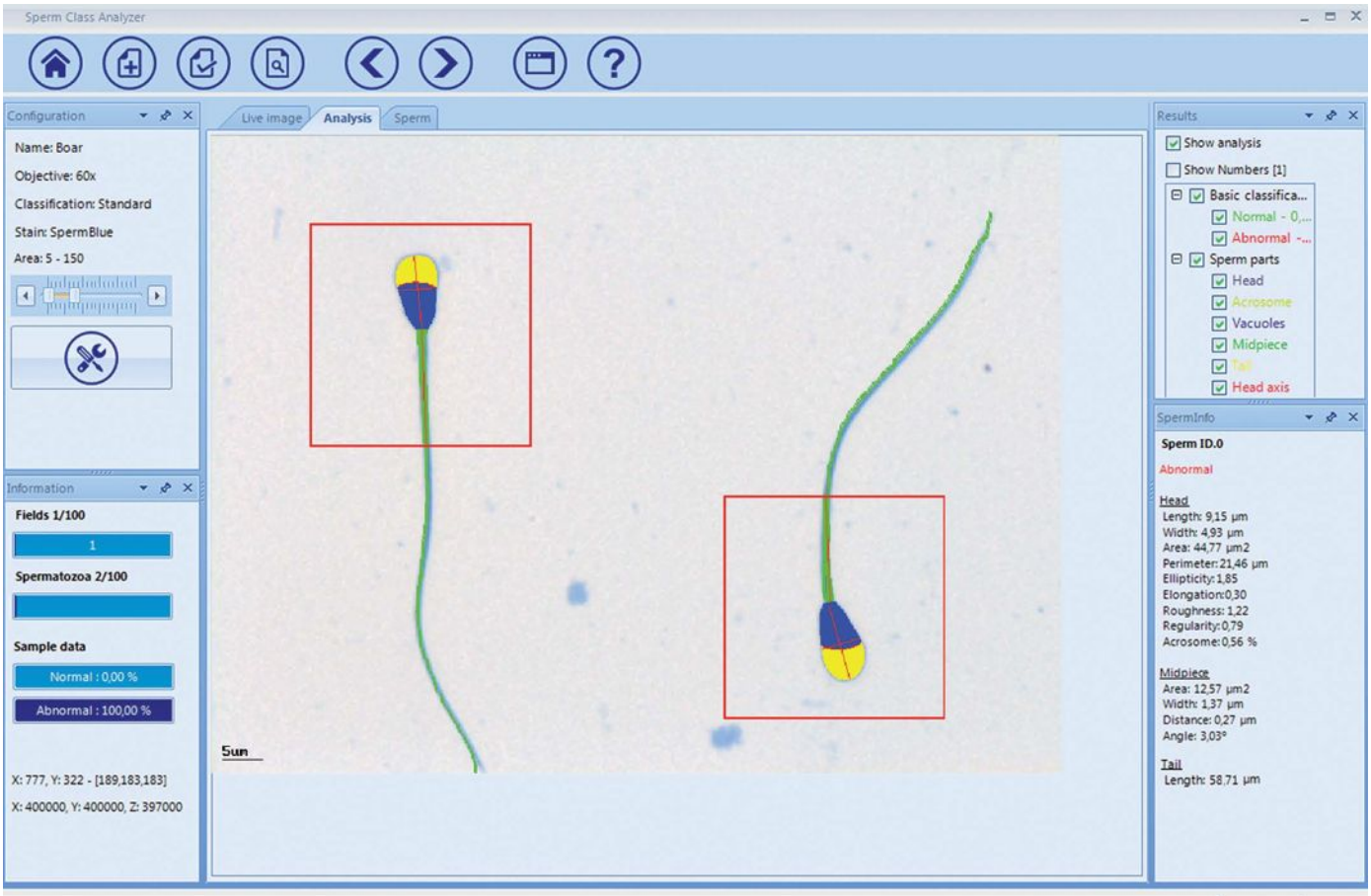
IMAGES AND GRAPHICS

New graphics to enhance the visualization of the results and comparison of the fields captured. It allows the user to select the image that appears in the report.

CUSTOMIZABLE DYNAMIC TABLES

It enables to synthesize all the database results into subgroups and create custom statistics.

THE KEY TO SUCCESS: ALWAYS BE ONE STEP AHEAD



ADAPTED TO THE NEW TECHNOLOGIES

It works with multi-touch screen, multi-screen, leap motion[1] and portable devices. The motorized stage can be directly controlled by touching the screen or by the hands movement.

INTERACTIVE TOOLS

It allows the measurement of distances, areas and perimeters, besides modifying the analysis configuration in real time, displaying automatically the changes in the analyzed image.

CREATING SUBPOPULATIONS

It enables to create analysis subpopulations, adding the desired parameters and limits, and displays graphs and reports of the analyzed sort.

AUTOMATICALLY EXPORT TO EXCEL

The analysis data can be easily exported to Excel. Additionally, the user can make queries in the database to recall the desired results.

[1] www.leapmotion.com

SCA® PRODUCTION FOR THE ANALYSIS AND PRODUCTION OF ANIMAL SEMEN DOSES

System appointed to animal semen production stations that need to make a quick and simple analysis of the ejaculate, to calculate the optimal number of doses they can produce.

SOME ADVANTATGES OF THE SCA® PRODUCTION

AUTOMATIC ANALYSIS

SCA® Production analyzes the **concentration, motility, droplets and coiled tails automatically.**
Optionally morphology and acrosome are analyzed interactively in phase contrast.

AUTOMATIC CALCULATION OF THE OPTIMAL DOSES

With the obtained data, the optimal number of doses with the concentration and suitable volume of extender are calculated.

DATABASE AND ANIMAL MONITORING

It includes a user-friendly database giving impressive reports. Optionally it enables to statistically **monitor the animal production** with evolution graphs.

SCA® MODULES:

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

SCA® PRODUCTION MODULES:

AUTOMATIC ANALYSIS MODULES	
SCA® Production	Automatic analysis of the concentration and motility, and interactive morphology and acrosome analysis in unstained samples
SCA® Droplets	Automatic analysis of cytoplasmic droplets and coiled tails

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

*Some animal species need a different configuration. For further information please contact Microptic S.L.

CE IVD

DISTRIBUTOR:

MICROPTIC
AUTOMATIC DIAGNOSTIC SYSTEMS

TÜVRheinland CERTIFIED
Management System ISO 9001:2008 ISO 13485:2003
www.tuv.com ID 9105064132

Viladomat 321. 6-4 · 08029 · Barcelona (Spain) · T. +34 93 419 29 10 · F. +34 93 419 94 26
www.micropticsl.com · micropticsl@micropticsl.com

v.04-2014