

MIBIO CASA SYSTEM

Consolidate analysis based
on shared knowlegde

www.mibio.org

Unique and species-specific knowledgebase and reference base

With the help of our self-learning system all laboratories can form their own species-specific sperm analysis systems. The MiBio Knowledge Base Market supporting the reference value share among the researchers and research institutes gives opportunity for the analysis of a sample even by several reference values or for carrying out the morphologic analyses with several knowledge bases.

Iterative analytic methodology for more reliable analyses

Our applied analytic methodology will bring about examinations ensuring statistically higher reliability for samples of several components.

Automated diagnosis set up with derived statistical figures making analysis easier

Setting up the diagnoses is entirely automatic, done on the basis of pre-set templates. Beyond the examined basic figures it is also possible to present derived figures (average, spread, median, modus, average absolute deviation, average square deviation and average minimum deviation) as well as graph based evaluations.

Storing the research results reliably and in a way making immediate trace back possible

The examination results are recorded in a database, making it possible any time later on to find all the data related to the examination carried out earlier.

Unified documentation of the results

The compiled examination reports are stored automatically, attached to the relevant examination. Viewing the results may be restricted by user assignments if necessary.

Teaching knowledge bases

At large institutes several different information bases may be necessary to be used at the same time. We offer extended support for our clients to quickly and effectively teach these.

For your employees and laboratories working independently from each other we offer the possibility of common usage of the created or purchased knowledge base. If needed, it is also possible to restrict the usage of the knowledge base by authorisation.

Carrying out individual examinations with special knowledge bases

After teaching the appropriate knowledge bases our solution will be suitable for the effective support of other cell analysis-based researches (e.g. oocyte fructification examinations) as well. The information base is created individually, after getting acquainted with the specific examination problem.

Integrating donor databases in other external systems – with permanent update

The donor database registered in the system can be integrated with other external (laboratory) systems according to the individual demands. During integration the harmony of the data can be ensured by the permanent (weekly, daily, hourly) updates.

Periodical and/or area-based comparison of the examination results

Results of long-term examinations with several sites can be compared either in the dimension of time or of area and thus changes arising during the period can be tracked or features characterising particular geological areas can be presented.

Integrating individual figures and statistics into the system

Upon your request the available figures and statistical figures can be extended with further individual examination dimensions to be examined or calculated in a species-specific way.

Project Concept: Water quality and environmental conformity

A Szent István Egyetemen közösen kidolgozott módszertanunk, valamint a hozzá kapcsolódó az elemzéseket végző és egyben azok dokumentálását is támogató MiBio rendszer a felszíni vízbázisok egy haladó szemléletű, halspermium alapú elemzését teszi lehetővé.

A MiBio alapú diagnosztikai rendszer egyaránt alkalmazható nagyvállalatok, erőművek ipari vízkibocsátásának folyamatos monitorozására, valamint a környező területek és természetes vízbázisok minőségének ellenőrzésére.

Céllaboratóriummal integrált informatikai rendszerünk kialakításától függően alkalmas a hazai és nemzetközi szabványokhoz viszonyított értékek monitorozására, illetve saját, szigorúbb határértékek figyelésére is.

Rendszerünk bevezetésével valós biológiai reakciók alapján szolgáltathat bizonyítékot a zéró mértékű környezeti terhelésről.

A folyamatos monitoring révén a környezetre gyakorolt káros hatások, az esetleges kockázatok idejekorán felismerhetők, megelőzhetők.

Az ellenőrző és monitoring rendszer kiépítésével párhuzamosan történhet az előírt vagy bevezetni kívánt tanúsítási rendszerek (ISO14001, EMAS, TÜV) akkreditációinak elvégzése, a meglévő tanúsítványok kibővítése.

A MiBio diagnosztikai rendszerre épülő egyedi megoldások a következő területeken felmerülő problémákra nyújtanak megoldásokat:

- Egy erőmű közvetlen környezetében lévő élettér (termőtalaj és élővizek) monitorozása
- Földalatti vízbázisok folyamatos minőség ellenőrzése közvetlen biológiai reakciók alapján
- Ipari hűtővíz kibocsátásának folyamatos minőség ellenőrzése.

- Ipari üzemeltetési és gyártási melléktermékként előálló szennyvizek toxikológiai ellenőrzése.
- Veszélyes hulladéktárolókból, iparvállalatok berendezéseiből esetlegesen a talajba és talajvízbe szivárgó szennyvíz folyamatos toxikológia ellenőrzése, és a biológiai környezetre gyakorolt hatásának monitorozása

Other utilization areas:

- Analysis of physiology effect of Cytostatics on behalf of development of waste water purification in this direction, both in the case of hospital or municipal cleaning
- Measurement of environmental efficiency of waste water treatment plants with the assist of biological indicators
- Analysis of the impact on the environment of various pesticide and the fertilizers

The companies, that on the one hand have to meet requirements for environmental regulations and on the other hand the necessary environmental investments have carried out, have the constant claim to announce it adequately certificated and clearly to the public.

With the assist of the MIBIO system:

- The client is able to communicate clearly and certificated that the operation of company has any harmful effect on biological balance.
- The client is able to verify environmental limit value not only in compliance with the national and European Union regulations but stricter own regulation, which helps to accept the longterm environment friendly operation of the company.

We highly recommend our environmental toxicological solutions:

- power plants
- water plants and wastewater plants
- huge industrial companies
- pharmaceutical companies and labs
- manufacturers of pesticide and fertilizer and
- hospitals

Outline of the project

In a typical project regarding Mibio we execute the following activities::

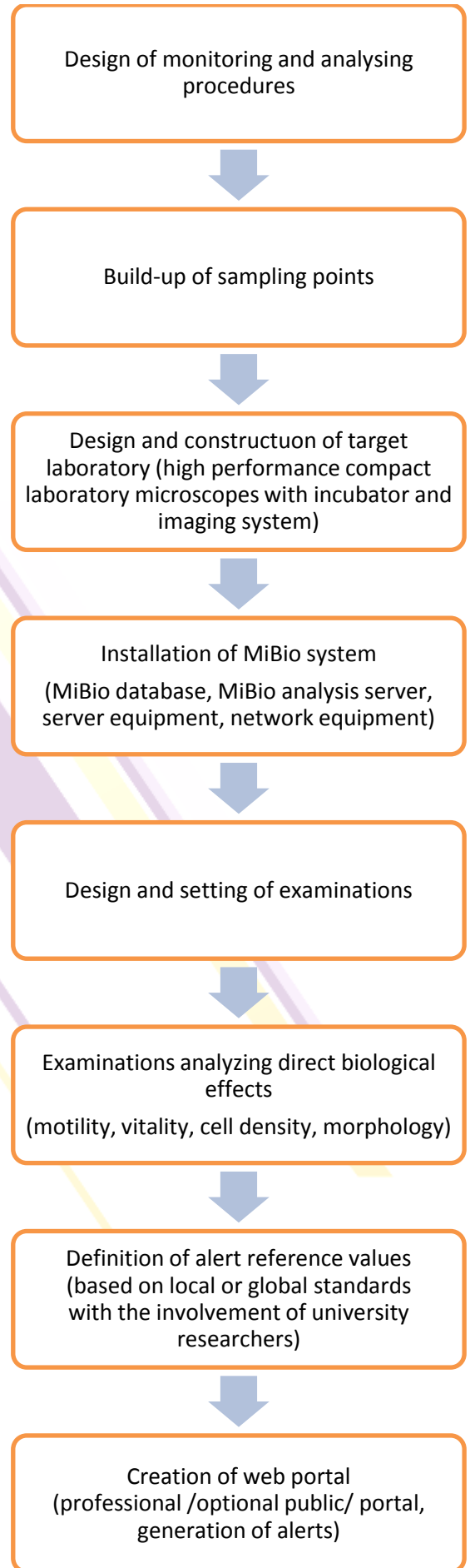
1. Plan of monitoring and analytic procedure
2. Plan of sampling sites and procedure
3. Installation of MIBO monitoring and analytic system
4. Installation of servers and storage
5. Development of quality management and monitoring IT workstations
6. Installation and start-up of supplied equipment
7. Preparation of operating rules
8. Setting of normal alarm limits
9. Publish of measurement results

Applicable probative processes

Two different probative methodology is mingled when implementing complex analytical and monitoring systems:

A. The most modern toxicological probative methods that shows the direct biological reactions caused by the examined sample. It can be stated with high reliability that the sample has no harmful physiological effect on animal organisms and human beings when this method brings a negative diagnosis

B. The most developed industrial instruments that allows monitoring the chemical components and physical attributes of water samples. These result values and the results of biological analyses are stored in the same database to ensure uniform evaluation.



MiBio Basic - Integrated analysis of semen motility and viability

Via the server solution, our MiBio Basic package integrates all the benefits of installed system, alloyed with possibilities offered by web access. Your colleagues can upload samples to be analysed any time and from anywhere, with the help of a live internet connection and a browser platform and they can even carry out the necessary examinations immediately.

After a simple parametering, our system can analyse video and image materials produced by any type of microscope. We can apply individual settings for each examination type and microscope technique, which will be saved in the system, following a one-off upload. In order to achieve optimal examination results, on the online platform of the MiBio Knowledge Base Market there is possibility to download different basic setting schemes.

Carry out viability examinations by way of a complex analysis of videos, even beyond the simple image analysis. Our system automatically recognises and categorises live and dead cells.

Compare your examination results with your own reference values or with those given by other researchers to be reached with the help of the MiBio Knowledge Base Market. Multiple examinations on the same sample are supported by the application.

The optionally selected figures of the analysed samples can be displayed in individually formatted reports. Besides, the system offers opportunity to export all the information attached to the sample and to the examinations in xls format.

The individual data attached to the samples and to the donors can be recorded in the custom fields offered by the system. The custom fields can record information of text, number or date.

The Basic and Professional versions of our MiBio system support multilingual use as well. You can even create your own individual language versions beside the basic languages of the system.

MiBio Professional - With own typical knowledge bases

The basis of the morphological analyses accessible in the Professional package is formed by individually creatable and species-specific knowledge bases. Each knowledge base may consist of even several thousands of images (normal cells, deformities, background images) and it can be extended continuously. Following the study of images in appropriate amount, different deformities can be recognised with absolutely high reliability.

The MiBio application is suitable to analyse any species' sperms in case the adequate knowledge base is available!

The images needed for the knowledge base are uploaded and their systematising is done within the system. You can upload the created knowledge base in your system with a simple import.

You can share your information base with other researchers too (either in a free or in a payable form).

Attach your own expertise evaluation to your examinations analysing the achieved results in details focussing on the areas highlighted from the examination aspect. You can send your compiled reports to your colleagues, to your customer or to your patients via e-mail even in a direct way.

With the donor stock of our solution a unified donor database can be formed, which can be used individually or even in cooperation with other external applications.

In the case of multiple user environments our system warrants controlled work by data- and function level access authorizations.

MiBio Research – Free CASA solution

In the MiBio project our highlighted aim is to provide a system that is capable of performing basic motility analyses of high reliability for all members of the scientist community, with the help of which the sperm analysis can be carried out free of charge via the internet.

As it is an online service, our users don't have to struggle with installation problems and there is no need for a special hardware environment. All you need is an internet connection and a browser with Flash plug-in. Our system supports the analysis of image and video materials of appropriate quality and made by any microscope.

After registration you can use our system free of charge with your individual identifier, which guarantees that the data analysed by you and the examination reports compiled by you can be accessed solely with this identifier.

The reference values found in the basic package, on the basis of which the examined samples are evaluated, can be extended with your own values any time.

Our MiBio Research package can be used for an indefinite period and for as many examinations as you want, free of charge.



MiBio Enterprise - Large research institutes, customized solutions

Our Enterprise CASA solution is delivered after individual tailoring, primarily for large research institutes and laboratories where need arises for the functionality of the system or for other areas beyond the functionality offered by our Professional product version.

Our individual computer-aided semen analysis solution is primarily offered for institutes having several sites (laboratories) where:

- a solution providing for multiple user, complex access and authorization system is needed,
- storing large number of and regular examinations carried out on several species in a structured way and in a database is indispensable,
- the institute and its different sub-units have to comply with strict quality insurance and documentation requirements and
- unified work and centralised coordination of the different units justifies the implementation of a common, server-based solution.

Our Enterprise solution will be installed with the integration of individual functions and modules matching your demands.

Scope of usage:

- Environmental impact assessment - EIA
- Ecological risk assessment - ERA
- Reproductive ability test - RAT
- Preliminary investigation of pesticide - PIP
- Human drug testing – HDT

With MiBio you can monitor the effects of heavy metal pollutants on sperm quality, select the most appropriate broodstock, improve the efficiency of cryopreservation and storage of semen, optimise conditions for fertilization etc.

Further highlighted features of MiBio

- multiple records of each sample
- statistics of analysis
- storage of video and image files
- automatic analysis of sperm viability
- viability analysis based on videos
- multiple analyses of samples
- species independent analysis
- storage of patient data
- automated analysis of DNA fragmentation
- documentation functions
- choice of microscope
- export data into Ms Excel
- typical knowledge bases
- multi-language user interface
- morphology analysis using own knowledge bases
- spermograms based on own unique templates

Technology partners



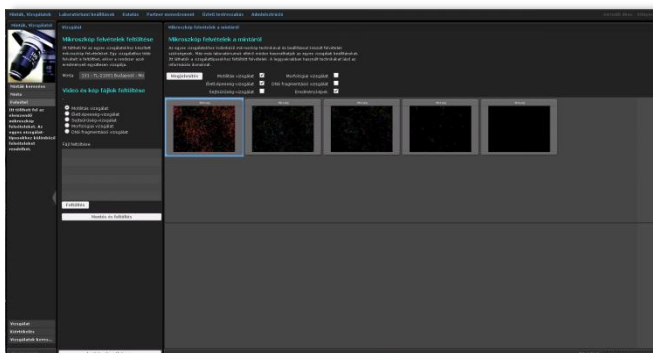
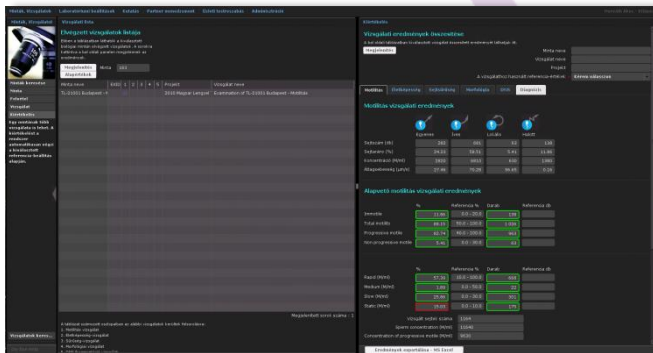
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A projektek az Európai Unió támogatásával valósulnak meg.