



TSL

Scientific Instrument Private Limited

KNOWLEDGE

SERVICE

SUPPORT

CONSULTING

EXPERIENCE

SUCCESS

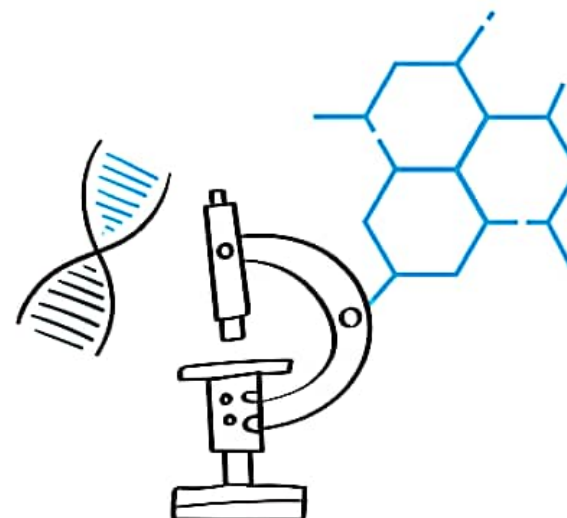
EXPERT

PROVIDING WORLD CLASS ANALYTICAL AND
LABORATORY FURNITURE

SYNTOL is a developer of modern molecular genetic technologies and a **recognized leader** in the Russian market of molecular genetic research.

Thanks to **many years of experience** and **our own unique innovative technologies**, we provide our clients with the opportunity to **successfully solve a wide range of problems** in various areas of scientific research and diagnostics: **in forensics**, livestock farming, crop farming, personalized medicine, sanitary and epidemiological control, veterinary science, fisheries, in quarantine and metrological services, as well as in fundamental scientific research.

We always find an **integrated approach** to **successfully solve** every customer task: from reagents and consumables to ready-made kits and equipment. In particular, **for forensic laboratories**, we offer instruments, services, kits, reagents and consumables for **each stage of analysis**.



RANGE OF SOLUTIONS



①

Collection of biomaterial:

Biocards



②

DNA extraction:

GenPrep

M-Sorb

M-Sorb-Bone

M-Sorb Automat

M-Sorb-Bone Automat

COLIBRI automatic DNA
extraction system



③

DNA quality and
quantity evaluation:

RealQuant kit

DTprime II real-time
PCR instrument



IN HUMAN IDENTIFICATION BY SYNTOL





Biocards are used for collection, storage, conservation and transportation of biomaterial. Biocards are treated with a reagent complex that lyses cells, denatures proteins, and protects DNA from destruction. The reagent complex also prevents the growth of microorganisms and fungi on the biocard field.

Biological material for collection: blood, buccal epithelium.

Advantages of biocards:

- direct DNA amplification from the card without additional purification and isolation;
- ease of DNA collection;
- long-term sample storage at room temperature;
- small size;
- sterility.

Catalog number	Name	Number per pack
HG-703	Biocard for collection, storage and transportation of biomaterial samples, 2 spots	30 cards per pack

"GenPrep" – reagent for rapid DNA extraction.

- Extraction takes 15 minutes.
- No need for purification or extraction.
- Resulting preparations are ready for amplification using any commercial kits.
- "GenPrep" components do not inhibit PCR, which allows to add 1 to 10 µl of DNA sample to the reaction mixture.
- Optimal amount of DNA addition depends on the type and storage terms of biological sample.

"GenPrep" reagent is intended for DNA extraction from:

- buccal epithelium;
- physiological fluids on a tissue carrier;
- blood on biocards;
- whole blood.



Catalog number	Name	Number of reactions
HG-504-30	"GenPrep" rapid DNA extraction kit from buccal epithelium and physiological fluids on a carrier object (30 ml)	100
HG-504-60	"GenPrep" rapid DNA extraction kit from buccal epithelium and physiological fluids on a carrier object (60 ml)	200
HG-504p	"GenPrep" rapid DNA extraction kit from buccal epithelium and physiological fluids (reagent in 1.5 ml tubes, it is necessary just to add a sample)	100



"M-Sorb" kits for DNA extraction.

"M-Sorb" kits operation principle is based on DNA sorption/desorption technology using magnetic particles that we produce. "M-Sorb" kits are designed both for manual extraction and for extraction with the use of automatic extraction systems.

"M-Sorb" reagent kit is designed to extract DNA from most forensic objects:

- physiological fluids adsorbed on a carrier object;
- buccal epithelium on applicators;
- paraffin blocks;
- hair, nails;
- samples on adhesive tape;
- epithelium on cigarette filters, chewing gum.

Catalog number	Name	Number of reactions
HG-501-50	"M-Sorb" DNA extraction kit (on magnetic beads)	50
HG-501-100		100



“M-Sorb-Bone” reagent kit is designed to extract genomic DNA from bone powder obtained from a bone or tooth sample.

Advantages of “M-Sorb-Bone” reagent kit:

- designed for extraction from bones and teeth;
- contains a special component for decalcification;
- ensures a high yield of DNA from samples with low initial DNA content;
- is automated.

Catalog number	Name	Number of reactions
HG-503-50	“M-Sorb-Bone” DNA extraction kit from bone powder (on magnetic beads)	50
HG-503-100		100

COLIBRI AUTOMATIC DNA EXTRACTION SYSTEM



Advantages of COLIBRI automatic DNA extraction system:

- reliable and easy-to-use device;
- protection against contamination due to built-in bactericidal UV lamp;
- time saving: DNA extraction in just 7 minutes, depending on the protocol;
- availability of built-in protocols for extraction and purification;
- possibility of extraction from **1 sample** using 8-well strips and magnetic rod attachments without increasing the extraction cost;
- availability of specific reagent kits for DNA/RNA extraction from various types of biomaterial.

Medical device registration certificate
in Russia: № P3H 2025/24651 dated
February 5, 2025.

AUTOMATIC DNA EXTRACTION

- Special protocol that allows DNA extraction from different types of samples simultaneously in 25 minutes;
- Possibility of sample concentration by elution in 30 µl;
- Mobility due to compact size and weight of 21 kg;
- Start in just three clicks.

Catalog number	Name	Performance
COLIBRI-48	COLIBRI 48 automatic DNA extraction system	for medium- and low-throughput laboratories
COLIBRI-96	COLIBRI 96 automatic DNA extraction system	for high-throughput laboratories
COLIBRI-48/96	COLIBRI 48/96 automatic DNA extraction system	for medium- and high-throughput laboratories





"M-Sorb Automat 48"

Cat. N° HG-501-A48

"M-Sorb Automat" reagent kit for the COLIBRI system is designed for DNA extraction from most biological samples using COLIBRI automatic DNA extraction system.

It is possible to extract DNA from:

- physiological fluids adsorbed on a carrier object;
- buccal epithelium on applicators;
- cell suspensions;
- paraffin blocks;
- hair;
- nails;
- samples on adhesive tape;
- epithelium on cigarette filters, chewing gum.



"M-Sorb Automat 96"

Cat. № HG-501-A96

Kit reagents, depending on the modification, are in 96-well plates or deep-well stripped tubes. These tubes were developed by SYNTOL specialists to **increase reliability of results of forensic examination**. The strips can be cut and used for the required number of samples, which minimizes the consumption of reagents. The kit is fully equipped, the components do not require additional preparation: it is necessary to puncture the foil, install and run the extraction protocol.

Catalog number	Name	Number of extractions
HG-501-A48	"M-Sorb Automat 48" reagent kit for DNA extraction for automatic DNA extraction system COLIBRI	48
HG-501-A96	"M-Sorb Automat 96" reagent kit for DNA extraction for automatic DNA extraction system COLIBRI	96

AUTOMATIC DNA EXTRACTION



"M-Sorb-Bone Automat 48"

Cat. N° HG-503-A48

"M-Sorb-Bone Automat" reagent kit is designed for DNA extraction from **bone powder** using COLIBRI automatic DNA extraction system. M-Sorb-Bone kit protocol is validated for DNA extraction from bone powder obtained from a bone or tooth sample. Kit reagents are in deep-well stripped tubes. The kit is fully equipped, the components do not require additional preparation: it is necessary to puncture the foil, install and run the extraction protocol.

Catalog number	Name	Number of extractions
HG-503-A48	"M-Sorb-Bone Automat 48" reagent kit for DNA extraction from bone powder for automatic DNA extraction system COLIBRI	48
HG-503-A96	"M-Sorb-Bone Automat 96" reagent kit for DNA extraction from bone powder for automatic DNA extraction system COLIBRI	96

AUTOMATIC DNA EXTRACTION



"M-Sorb-Bone Automat 96"

Cat. N° HG-503-A96

Consumables for AutoMate Express forensic DNA extraction system:

"M-Sorb Express" reagent kit for DNA extraction on AutoMate Express forensic DNA extraction systems.

"M-Sorb-Bone Express" reagent kit for DNA extraction from bone powder on AutoMate Express forensic DNA extraction systems.

Catalog number	Name	Number of extractions
HG-505	"M-Sorb Express" reagent kit for DNA extraction for AutoMate Express system	52
HG-506	"M-Sorb-Bone Express" reagent kit for DNA extraction from bone powder for AutoMate Express system	52



KITS AND EQUIPMENT FOR DNA CONCENTRATION DETERMINATION

"RealQuant H3" reagent kits for human DNA
quantitative analysis



"RealQuant H3" reagent kits are systems that enable quantitative and qualitative assessment of total human and male DNA within a single highly sensitive real-time PCR.

The kits are optimized and tested as part of a comprehensive DNA analysis system with STR amplification kits.

Amplification of multi-copy autosomal fragments of different sizes allows for a reliable assessment of the concentration and degree of DNA degradation in the sample under study, and amplification of a multi-copy fragment of the Y chromosome allows for determining the sex and ratio of male and female DNA in mixed samples.

The kit is based on real-time polymerase chain reaction method (RT-PCR) using TaqMan probes. The kit contains four targets: on Y chromosome, two targets on autosomes (large and small fragments), as well as IPC - internal positive control.

Internal positive control (IPC) confirms that all components of the kit function correctly. IPC is used to assess presence or absence of inhibitors in a DNA sample and to decide whether it can be used in an STR reaction.

"RealQuant H3" kits are highly specific: they detect only human and higher primate DNA. With RealQuant H3 kits it is possible to:

- determine presence or absence of human DNA in a sample;
- determine concentration of DNA in a sample;
- take optimal amount for STR amplification;
- improve prediction of STR amplification results by assessing DNA quality in degraded samples, especially in the presence of inhibitors;
- determine presence of PCR inhibitors in the DNA sample: they may indicate the need for additional purification.



"RealQuant H3" reagent kit
Cat. N° HG-403, HG-403 AB



"RealQuant H3" reagent kit (in stripped PCR tubes)
Cat. N° HG-403p

Catalog number	Name	Number of extractions
HG-403AB-100	"RealQuant H3 AB" Human DNA Quantification kit for detection and determination of human DNA amount, degree of its degradation and gender on 7500, QuantStudio 5 instruments	100
HG-403AB-200		200
HIG-403AB-400		400
HG-403	"RealQuant H3" Human DNA Quantification kit for detection and determination of human DNA amount, degree of its degradation and gender	100
HG-403p	"RealQuant H3 R" Human DNA Quantification kit for detection and determination of human DNA amount, degree of its degradation and gender (fully prepared reaction mix in PCR strips, it is necessary just to add DNA sample)	104

DTprime II PCR INSTRUMENT

(manufactured by "DNA Technology")



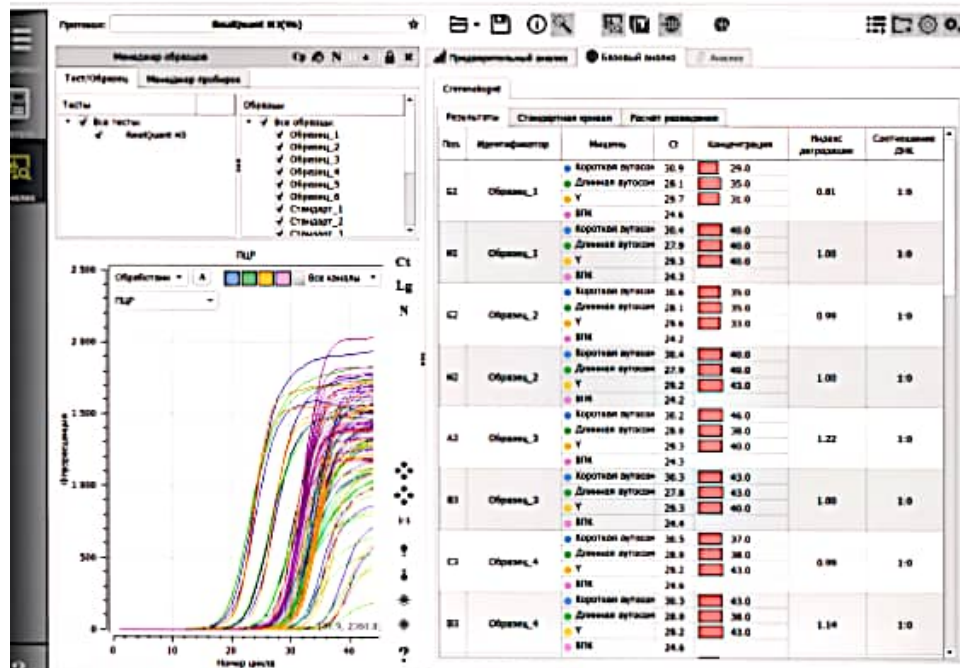
Real-time PCR instrument combines a wide range of functions and high throughput. The user interface is in Russian and in English and is easy for users with different levels of training.

The instrument is flexible in use: both individual tubes and strips, as well as standard 96-well plates, and in the X1 modification, 384-well microplates are suitable as consumables. The narrow body and compact design make it possible to organize a complex of several devices in a small area.

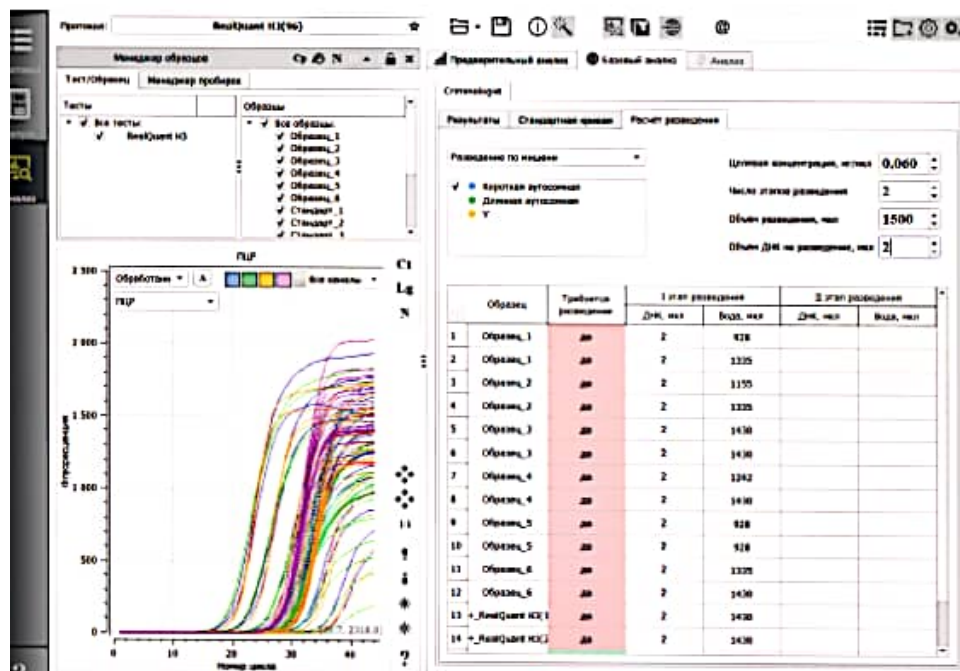
DTprime II 5M1 instrument software is equipped with a HID module for "RealQuant H3" reagent kit (manufactured by SYNTOL).

Module functions:

- Automatic calculation of the degradation index of a DNA sample;
- Automatic calculation of the ratio of male and female DNA in a sample;
- Tool for calculating the normalization (dilution to a single concentration) of samples for STR analysis. It is possible to calculate the dilution of samples by a short or long fragment, by the average value and by a fragment of Y chromosome.



Automatic calculation of the degradation index and the ratio of male and female components by software of the real-time PCR instrument DTprime II.



Automatic calculation of dilution by software of the real-time PCR instrument DTprime II.



"HUMAN ID" HID 31 STR LOCI REAGENT KIT



"Human ID" HID 31 STR loci reagent kit

The kit is based on multiplex amplification of 31 STR loci with subsequent separation of PCR products by capillary electrophoresis. Of these, 26 are autosomal and 5 are sex loci.

Autosomal loci: D3S1358, D2S441, D1S1656, D19S433, TPOX, D2S1338, TH01, D16S539, CSF1PO, D18S51, D21S11, D6S1043, D22S1045, D8S1179, VWA, D5S818, FGA, D13S317, D7S820, D12S391, D10S1248, SE33, DYS391, D8S1132, D7S1517, Penta D, Penta E. Sex loci: Amelogenin, Yindel, SRY, DYS391, DYS392. The kit allows to study 12 short STR markers (amplicons up to 220 base pairs long). The maximum volume of DNA solution added to the reaction is 15 µl. The total volume of the reaction mixture is 25 µl. It is possible to perform direct amplification using biocards of buccal epithelium samples treated with the GenPrep reagent (Cat. No. HG-504).

Kit components:

- reaction mixture for PCR containing DNA polymerase (RM);
- mixture of specific primers (6 different super-bright fluorescent dyes) (SPM);
- Positive control sample (PC);
- Size standard (SS-520);
- Allelic ladder (AL);
- Deionized water (dd H₂O).

DTclassic PCR INSTRUMENT

(manufactured by "DNA Technology")

The innovative tablet instrument DTclassic is designed to carry out classical PCR. The device is equipped with a large color display and has an easy-to-use interface.

Advantages of the instrument:

- touch screen and intuitive interface;
- ability to set and save up to 1000 amplification programs in the instrument's memory;
- program resumption after a power outage;
- compatibility with different plastics;
- 24/7 service support.



Catalog number	Name	Number of reactions
HG-M31	"Human ID" HID 31 STR loci reagent kit for 200 to 500 samples	200-500

CAPILLARY ELECTROPHORESIS



NANOPHOR 05 GENETIC ANALYZER



Nanophor 05 is the first serial 8-capillary genetic analyzer of Russian production.

Main applications of the instrument:

- Sanger sequencing de novo and resequencing;
 - fragment analysis: microsatellite analysis, LOH, AFLP, single nucleotide polymorphism (SNP) study and others.
- Nanophor 05 is resistant to overloads, while being sensitive to small amounts of DNA.

Advantages of Nanophor 05:

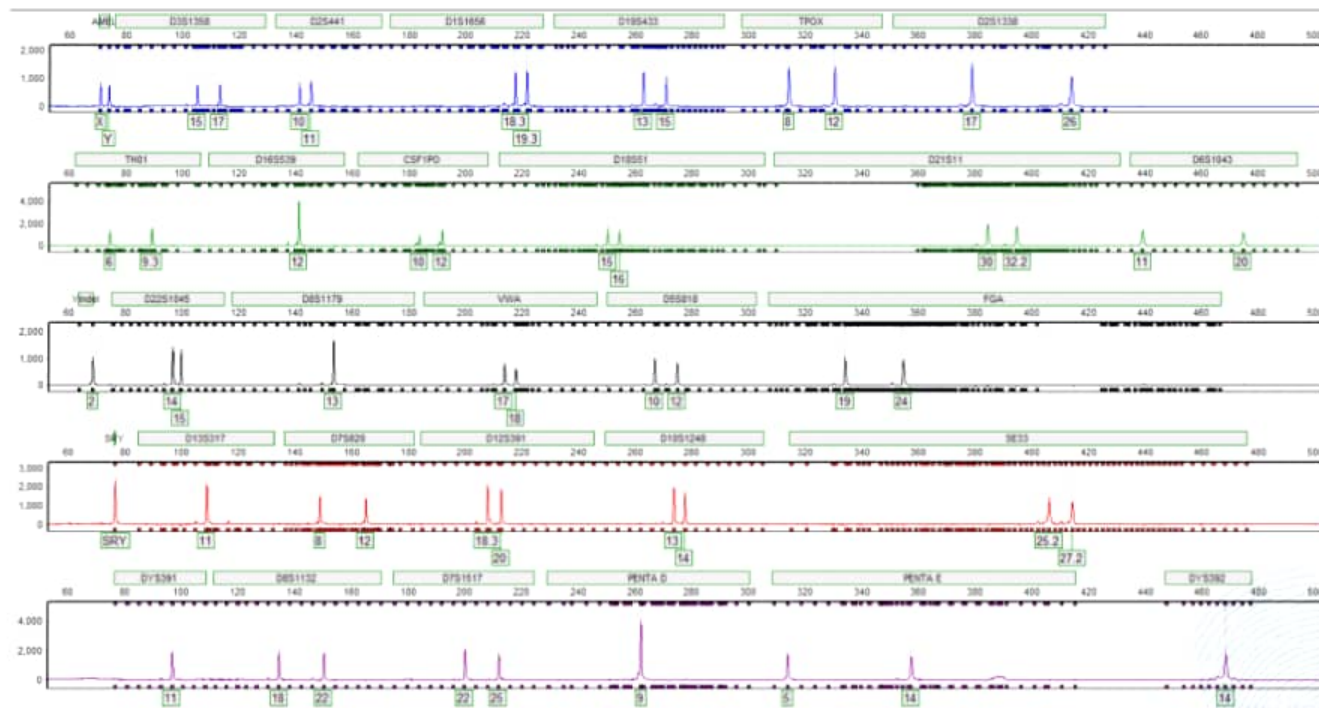
- Availability of reagents for the device of SYNTOL production: makes it possible to offer our clients all the solutions necessary for work, "from one source";
- Competitive prices with consistently high quality of products – due to the use of our own components;
- Short delivery times and long shelf life of reagents due to our own production site;
- Openness of the system: allows to work with kits for capillary electrophoresis of both domestic and foreign manufacturers;
- Technical support and service directly from the manufacturer at all stages of interaction with the customer;
- Prompt resolution of any technical issue due to our own service department.

Nanophor 05 has been tested and endorsed by the Forensic Science Center of the Ministry of Internal Affairs of the Russian Federation, the Investigative Committee of the Russian Federation and the Forensic Science Committee of the Republic of Belarus. Medical device registration certificate for the medical device No. P3H 2015/3474 dated March 11, 2022.

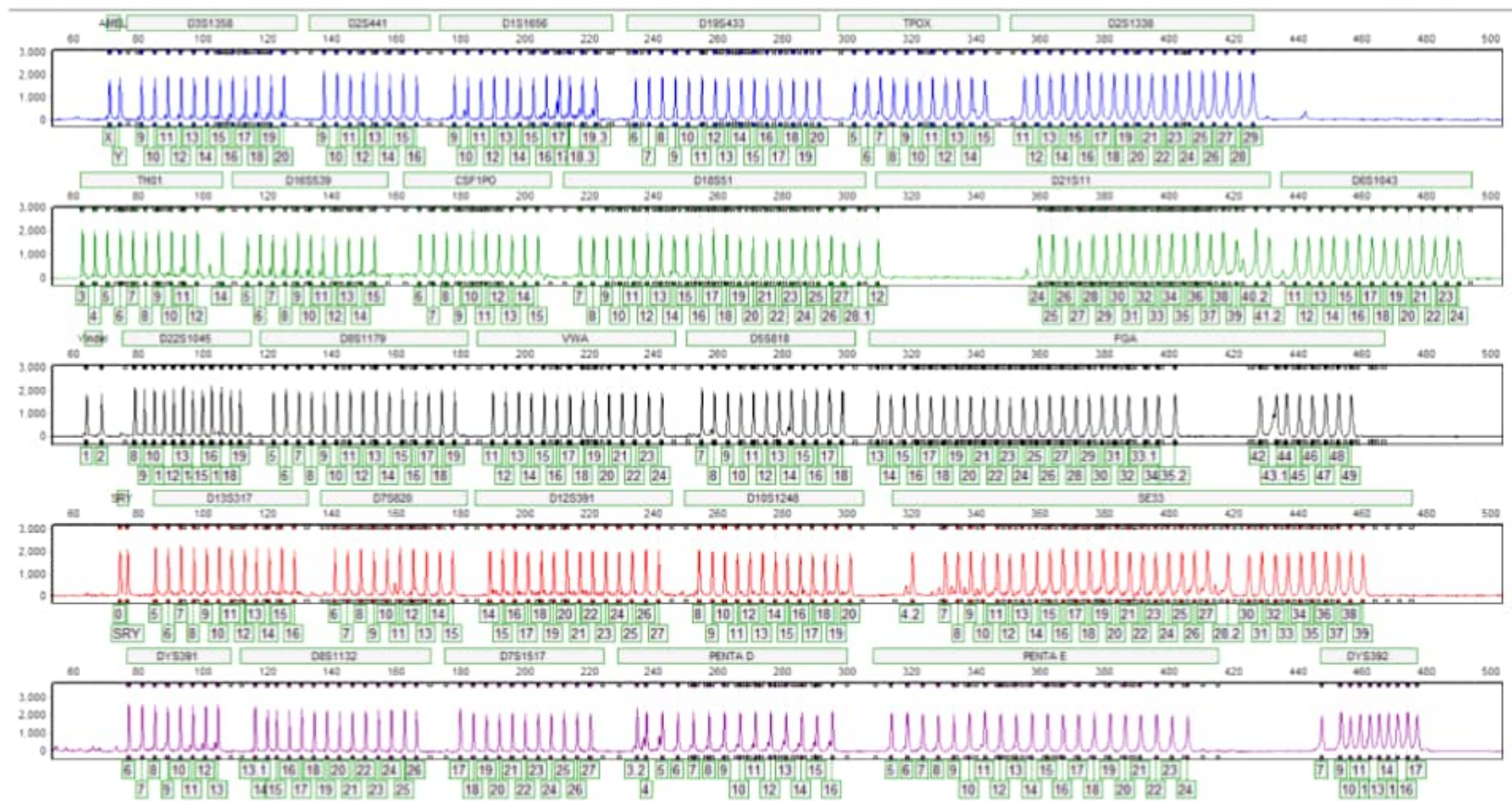
- Nanophor 05 control program and user manual are available in Russian and in English;
- Specialized software for human identification (sequencing and fragment DNA analysis).



Catalog number	Name
Nanophor 05 MB	Nanophor 05 genetic analyzer complete with a computer for data processing and a computer for device control. Equipped with specialized software for Molecular Biological research (sequencing and fragment DNA analysis)
Nanophor 05 HID	Nanophor 05 genetic analyzer complete with a computer for data processing and a computer for device control. Equipped with specialized software for Human Identification research (sequencing and fragment DNA analysis)



Coming soon: Russian software for **HID DNA fragment analysis**



REAGENTS AND CONSUMABLES FOR NANOPHOR 05



PD-0407 Polymer for fragment analysis "PDMA-4", 7 ml

PD-0435 Polymer for fragment analysis "PDMA-4", 35 ml



PD-0607 Polymer for fragment analysis "PDMA-6", 7 ml

PD-0635 Polymer for fragment analysis "PDMA-6", 35 ml



BTS-0025 10x CE sequencing buffer TAPS, 25 ml

BTS-0050 10x CE sequencing buffer TAPS, 50 ml



DIFA-10 Deionized formamide DI-FA for electrokinetic injection of samples (capillary electrophoresis), 10 ml

DIFA-25 Deionized formamide DI-FA for electrokinetic injection of samples (capillary electrophoresis), 25 ml



SQ-102 Rack for a 96-well plate



SQ-103 Cover for a 96-well plate



SQ-104-20 96-well plate septa, 20 pieces per pack



SQ-105-20 Reservoir septa, 20 pieces per pack



REAGENTS AND CONSUMABLES FOR 3500/3500 XL GENETIC ANALYZERS



PD-06AB4 Polymer PDMA-6
in pouches with RFID-tag for genetic
analyzers 3500/3500xl series (POP-4)



PD-06AB7 Polymer PDMA-6
in pouches with RFID-tag for genetic
analyzers 3500/3500xl series (POP-7)



BTS-025CAB 10x cathode buffer for genetic analyzers 3500/3500xl
series with RFID-tag (5 refills of cathode container)



BTS-025AAB 10x anode buffer for genetic analyzers 3500/3500xl
series with RFID-tag (5 refills of anode container)



BTS-050CAB Cathode buffer for genetic analyzers 3500/3500xl
series with RFID-tag (1 refill of cathode container)



BTS-050AAB Anode buffer for genetic analyzers 3500/3500xl
series with RFID-tag (1 refill of anode container)



CR-010 Conditioning reagent for genetic analyzers 3500/3500xl
series with RFID-tag (1 rinsing)



Ready to Elevate Your Lab Experience?

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TSL Scientific Instrument Private Limited

Corp Off: Plot No.150, Khasra No.150, C-3 Devli Road
New Basti, Devli New Delhi-110062

TeleFax: 01129915840

Mobile: 09312119958

Email: tsl.inst@gmail.com

Website: tslscientificinst.com

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