

**Control lab**  
Side by side with you

45<sup>YEARS</sup>

HAVE AN ENVIRONMENT  
**WITH ANALYSIS  
OF EXCELLENCE**



# Solutions that Promote Quality

Controllab solutions help the laboratory to gain recognition from its audience.



**Proficiency Testing**  
(External Control)

Periodically checks the accuracy of the results.



**Internal Control**

It monitors systems analytical performance with each routine.



**Strains Control**

The Bacteria Library and Fungal Collection of your laboratory.



**Laboratory Indicator Benchmarking Program**

Monitors laboratory requirements and improves operational results.



**Analytical Quality Management**

It unifies the tools of quality and monitors the analytical performance of the examen.



**Reference Materials**

It complements quality control tools and ensures analytical accuracy.



**Certified Reference Materials**

It adds more precision and traceability to the analytical process.

## Why be a Controllab partner?

The globalized and technological world in which we live requires more and more agile and accurate information. Additionally, the quality of information is a crucial factor for day-to-day strategic decisions. When we talk about laboratory test results, the quality of information is translated into trust.

In this context, Controllab has been transforming its solutions so that users dedicate their time to the information that needs more attention. Multiple alerts and analytics features have been introduced in quality tools to help speed up laboratory routine decisions and provide reliability in test results.



**Learn more about Controllab**

# We are Controllab

Controllab is the largest laboratory quality control company in Latin America, with complete and integrated solutions in the broadest portfolio in the market – there are more than 3,500 tests. Taking care of life is your commitment. It is a full solution company in several segments: clinical, blood bank, veterinary, microbiology, physical-chemical tests and others.

Focused on developing the best user experience, it helps customers to provide accurate, indisputable services that stand out in the national and international markets. It has unique know-how in quality control solutions, has the exclusive support of important scientific societies and the recognition of the main standards related to its performance: ISO 9001, 17025, 17034 and 17043.



## Our Numbers

**45**  
years  
of history  
and performance.

**+3500**  
tests  
periodically  
analyzed

**04**  
accreditations  
with recognized  
internationally

**+15**  
years  
of accreditations  
Cgcre/Inmetro

## Accreditations, Certifications and Qualifications

Continuous improvement, based on quality and reliability, gives Controllab the following recognitions:



According to the scopes published in [www.gov.br/inmetro](http://www.gov.br/inmetro)



Learn more about Controllab



## Promotes excellence in exam analysis

Controllab's Proficiency Testing Program is continuous, with runs at regular intervals, annual targets and multiple items in varying concentrations for review.

It has an information management system that allows for more agility and efficiency in performance analysis. With dynamic information that **simplifies auditing processes and improves analysis knowledge.**

### Discover some of the available areas:

#### CLINICAL

- ✔ SARS-CoV2 (Covid-19)
- ✔ Point of Care (POCT)
- ✔ Hematology
- ✔ Urinalysis
- ✔ Biochemistry
- ✔ Microbiology
- ✔ Flow Cytometry
- ✔ Arboviruses
- ✔ Genetics and Molecular Biology
- ✔ Cardiac and Tumor Markers
- ✔ Occupational Toxicology
- ✔ Cytopathology
- ✔ Drugs of Abuse
- ✔ Histocompatibility (HLA)
- ✔ Reproductive Medicine

#### HEMOTHERAPY

- ✔ Multiple tests for blood banking

#### VETERINARY

- ✔ Multiple tests for veterinary laboratory

#### MICROBIOLOGY AND PHYSICOCHEMICAL

Multiple analysis for microbiology and tests laboratory, among them:

- ✔ Medicines
- ✔ Foods
- ✔ Water and effluents

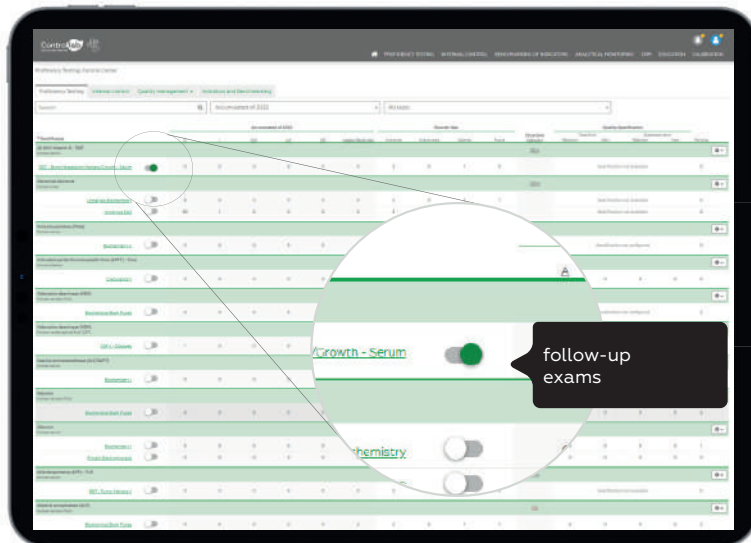
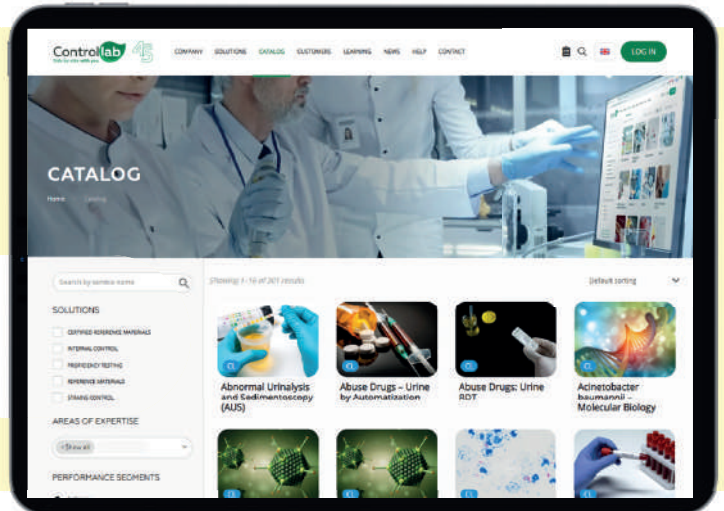
#### PHYSICOCHEMICAL

Multiple analysis for tests laboratory, among them:

- ✔ Fuels
- ✔ Pharmaceutical Ingredients

**More than 3,500 tests available for Quality Control.** This diversity of exams aims to meet the demands of laboratories and growing technological innovation in the segments.

Discover our  
**Online Catalog**

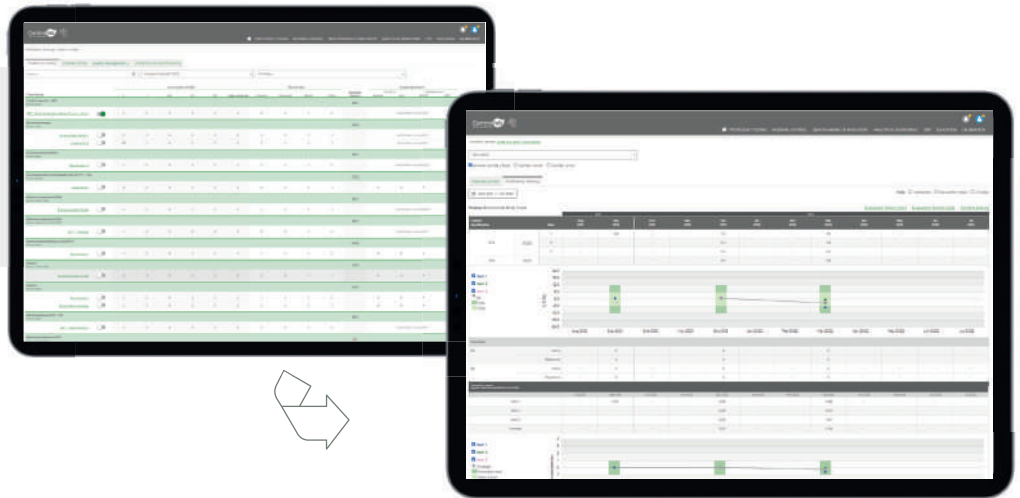


**Control center** for objective analysis of exams that need immediate action.

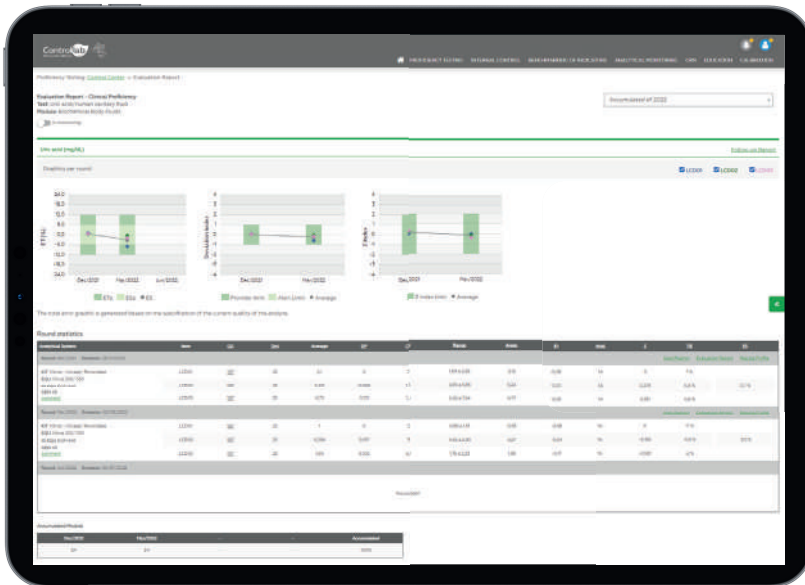


Learn more about Proficiency Testing

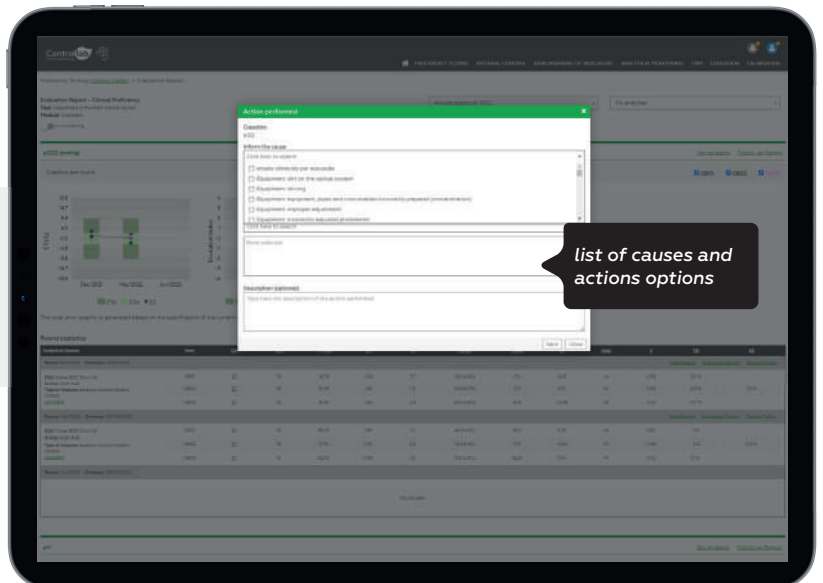
**Management summary** which simplifies the tracking and consultation of exam information.



**Graphs in period evaluation and over time** to analyze trends and help prevent and identify the causes of non-conforming results.



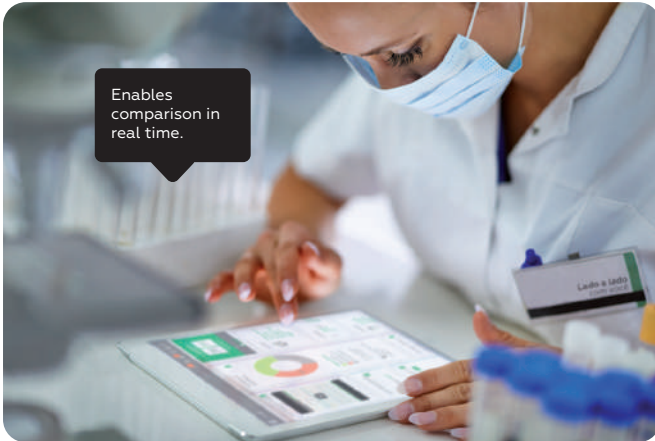
**History and tracking** actions on the results that show the treatment of results for audits and promote the evolution of management.



*list of causes and actions options*



Learn more about Proficiency Testing



## Prevents failures in exam results

Participate in **CI ONLINE**, an Internal Control program that promotes more **efficiency and precision** to the analytical process.

In **CI ONLINE**, the laboratory can use Controllab samples (valued by interlaboratory), internal control materials from other suppliers available on the market and those developed by the laboratories themselves, with visualization of the behavior of the results in a single Control Center. This **flexibility** makes for more practicality and productivity in the processes of analysis and routine monitoring.

### At CI ONLINE, your laboratory:



Keeps the **history and tracking** of actions on the results.



It **integrates with the laboratory information system (LIS)** and completely automates the routine of internal controls.



Apply multiple rules consistent with the reality of the laboratory.



Analyzes performance behavior between reagent lots.



Track the process with graphs over time (Levey Jennings).



It is alerted when the result exceeds the specified goal.



Learn more about Internal Control

## We changed the maintenance of microorganisms

Investing resources in continuous passages is no longer your laboratory's job.

### Routine maintenance of strain

Inoculum  
Seeding  
Incubation  
Cryoprotectant  
Sterile Vials  
Lyophilization  
Freezing

**7** steps

That consumes more time, structure, records and analysis. It can generate unwanted mutations and loss of viability.

### Control Strain Program

Inoculum  
Seeding  
Incubation

**3** steps

That reduce records, streamline processes and provide more time for exam analysis.

The Strains Control Program replaces the Bacteria Library and Fungal Collection in your laboratory.



**Lyophilized strains of NCTC and NCPF origin.** Accompanied by a certificate of analysis containing the characteristics of the microorganism.

**Controllab performs the passages and sends strains** immediately until the 3<sup>rd</sup>. generation to meet CLSI, BrCAST - EUCAST, AFNOR, FDA, ISOs, Pharmacopoeia regulations, among others. Meets the processes of accreditation and regulatory bodies.

The program uses NCTC and NCPF licensed strains. Authenticated reference strains are of paramount importance for the control of clinical examinations. By joining the **Strains Control Program**, the laboratory has access to a service with internationally recognized quality standards.

In addition to Brazil, countries such as Argentina, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Suriname, Uruguay and Venezuela can benefit from this initiative.

➔ with unique identification for your laboratory



Learn more about Strains Control

## Gram and AFB controls help laboratories evaluate new dye/reagent lots.



### GRAM CONTROL

Smear slides containing *Staphylococcus aureus* and *Escherichia coli* microorganisms.



### AFB CONTROL

Smear slides containing *Mycobacterium tuberculosis* and *Escherichia coli* microorganisms.

This practicality of internal control programs for bacteriology allows the laboratory to simplify the routine, gain more agility and reduce costs and time involved in tests and records to ensure the quality of controls and evidence in audits.

## The Bacteria Library and Fungal Collection in your laboratory.

### Bacteria

Microorganism	NCTC®	ATCC®	WDCM
<i>Citrobacter freundii</i>	9750	8090	–
<i>Clostridium bifermentans</i>	506	–	00079
<i>Clostridium difficile</i>	13566	43593	–
<i>Clostridium septicum</i>	547	12464	–
<i>Enterobacter hormaechei</i>	13870	700323	–
<i>Enterococcus hirae</i>	13383	10541	00011
<i>Legionella pneumophila</i>	11192	33152	00107
<i>Legionella pneumophila</i>	12821	–	00205
<i>Micrococcus luteus</i>	7743	10240	–
<i>Mycobacterium smegmatis</i>	8159	19420	–
<i>Pseudomonas fluorescens</i>	10038	13525	00115
<i>Streptococcus equi</i> subsp. <i>Zooepidemicus</i>	7023	43079	–
<i>Streptococcus mutans</i>	10449	25175	–
<i>Vibrio furnissii</i>	11218	–	00186
<i>Vibrio parahaemolyticus</i>	10903	17802	00037

### Fungi

Microorganism	NCPF®	ATCC®	WDCM
<i>Aspergillus brasiliensis</i>	2275	16404	00053
<i>Candida albicans</i>	3179	10231	00054
<i>Candida albicans</i>	3255	2091	00055
<i>Candida albicans</i>	3939	90028	–
<i>Saccharomyces cerevisiae</i>	3191	9763	–
<i>Saccharomyces cerevisiae</i>	3275	2601	–

**Nota 1:** NCTC and NCPF strains licensed from PHE are equivalent to the ATCC® strains referenced in this table.

**Nota 2:** Other strains not listed available on request.



Learn more about Strains Control



**Pathological Anatomy/Cytopathology**

General Pathological Anatomy .....	C	H	A
Gynecological Cytopathology .....	C	H	A
Non-Gynecological Cytopathology .....	C	H	A
Dermatopathology .....	C	H	A

**Flow Cytometry**

CD34+ .....	C	H	A
Diagnosis of Leukemia .....	C	H	A
Paroxysmal Nocturnal Hemoglobinuria (PNH) .....	C	H	A
Lymphocyte Panel .....	C	H	A

**Coagulation/Haemostasis**

Platelet Aggregation .....	C	H	A
Lupus Anticoagulant .....	C	H	A
Anti-Xa Activity .....	C	H	A
Coagulation and Haemostasis .....	C	H	A
D-dimer .....	C	H	A
Platelet Anti-Aggregation Drugs .....	C	H	A
Thromboelastogram .....	C	H	A

**Coprology/Occult Blood**

Calprotectin .....	C	H	A
Eosinophils Research: Stool .....	C	H	A
Coprology .....	C	H	A
Fecal Occult Blood .....	C	H	A

**Diabetes/ Hemoglobins**

Diabetes mellitus .....	C	H	A
Glycated Hemoglobin .....	C	H	A
Hemoglobinopathies .....	C	H	A
HbS: Sickle Test .....	C	H	A
Diabetes Markers .....	C	H	A
Hemoglobin H Research .....	C	H	A
Osmotic Fragility .....	C	H	A

**Neonatal Diagnosis**

Neonatal bilirubin .....	C	H	A
Immunoglobulin M - Umbilical Cord .....	C	H	A
Neonatal Therapy .....	C	H	A
Neonatal Screening II .....	C	H	A
Neonatal Screening - Infectious Diseases .....	C	H	A

**Infectious diseases**

Adenovirus - Antibodies .....	C	H	A
Anti-HAV (Hepatitis A) .....	C	H	A
Anti-HBc (Hepatitis B) .....	C	H	A
Anti-HDV (Hepatitis D) .....	C	H	A
<i>Aspergillus sp.</i> - Antibodies .....	C	H	A
<i>Bartonella henselae</i> - Antibodies .....	C	H	A
<i>Borrelia burgdorferi</i> - Antibodies .....	C	H	A
Brucellosis .....	C	H	A
<i>Candida albicans</i> - Antibodies .....	C	H	A

Mumps .....	C	H	A
Chikungunya .....	C	H	A
<i>Chlamydia trachomatis</i> .....	C	H	A
Cytomegalovirus (CMV) .....	C	H	A
<i>Clostridium tetani</i> - Antibodies .....	C	H	A
Dengue IgG, IgM and Ns1 .....	C	H	A
<i>Entamoeba histolytica</i> - Antibodies .....	C	H	A
Yellow fever .....	C	H	A
<i>Giardia lamblia</i> - Antibodies .....	C	H	A
<i>Helicobacter pylori</i> - Antibodies .....	C	H	A
Herpes (HSV) .....	C	H	A
Histoplasmosis .....	C	H	A
Leptospirosis .....	C	H	A
<i>Mycoplasma pneumoniae</i> .....	C	H	A
Parainfluenza 1,2,3 and 4 - Antibodies .....	C	H	A
Coronavirus Neutralizing Antibodies Research (SARS-CoV2) .....	C	H	A
Parvovirus B19 - Antibodies .....	C	H	A
Widal Reaction .....	C	H	A
Rubella .....	C	H	A
Measles .....	C	H	A
Syphilis - Immunofluorescence .....	C	H	A
Serology .....	C	H	A
Toxoplasmosis .....	C	H	A
Varicella-Zoster .....	C	H	A
Epstein-Barr Virus (EBV) .....	C	H	A
Zika virus .....	C	H	A

**Gasometry**

Gasobio .....	C	H	A
Gasometry .....	C	H	A
Oximetry .....	C	H	A

**Genetics and Molecular Biology**

<i>Acinetobacter baumannii</i> .....	C	H	A
Adenovirus .....	C	H	A
Apolipoprotein E .....	C	H	A
<i>Aspergillus sp.</i> .....	C	H	A
Biología Molecular I – HBV, HCV and HIV .....	C	H	A
Biología Molecular II - HTLV .....	C	H	A
<i>Bordetella pertussis</i> .....	C	H	A
<i>Brucella spp.</i> .....	C	H	A
<i>Campylobacter</i> .....	C	H	A
<i>Candida</i> .....	C	H	A
Chikungunya .....	C	H	A
<i>Chlamydia trachomatis</i> .....	C	H	A
G-Banding Karyotype: Constitutional .....	C	H	A
G-Banding Karyotype: Fetal .....	C	H	A
G-Banding Karyotype: Tumor .....	C	H	A
Cytomegalovirus .....	C	H	A
<i>Citrobacter</i> .....	C	H	A
Coronavirus (SARS-CoV2) .....	C	H	A
<i>Clostridium difficile</i> .....	C	H	A
Dengue .....	C	H	A



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<i>Enterobacter</i> .....	C	H	A
<i>Enterococcus</i> .....	C	H	A
Epstein Barr .....	C	H	A
<i>Escherichia coli</i> .....	C	H	A
<i>Giardia sp.</i> .....	C	H	A
Factor V Leiden - Mutation Research .....	C	H	A
Yellow fever .....	C	H	A
Hepatitis Delta (HDV) .....	C	H	A
Hepatitis (HEV) .....	C	H	A
Herpes Simplex Virus (HSV) .....	C	H	A
Hemochromatosis - Mutation Research .....	C	H	A
<i>Histoplasma capsulatum</i> .....	C	H	A
Respiratory Infections and Pneumonia .....	C	H	A
Influenza A and B .....	C	H	A
Janus kinase 2 (JAK-2) - Mutation Research .....	C	H	A
<i>Klebsiella</i> .....	C	H	A
<i>Legionella</i> .....	C	H	A
Leptospirose .....	C	H	A
Mayaro .....	C	H	A
MTHFR - Mutation Research .....	C	H	A
<i>Mycobacterium tuberculosis</i> .....	C	H	A
<i>Mycoplasma pneumoniae</i> .....	C	H	A
NAT - Molecular Biology .....	C	H	A
<i>Neisseria gonorrhoeae</i> .....	C	H	A
Norovirus .....	C	H	A
Meningitis and Encephalitis .....	C	H	A
Human Papillomavirus (HPV) .....	C	H	A
<i>Paracoccidioides brasiliensis</i> .....	C	H	A
Poliomavirus BK .....	C	H	A
Poliomavirus JC .....	C	H	A
Prothrombin - Mutation Research .....	C	H	A
Rotavirus .....	C	H	A
<i>Salmonella</i> .....	C	H	A
Fetal Sexing .....	C	H	A
<i>Sporothrix schenckii</i> .....	C	H	A
<i>Staphylococcus</i> .....	C	H	A
<i>Group A Streptococcus</i> .....	C	H	A
Sequencing - Coronavirus (SARS-CoV2) .....	C	H	A
Sequencing - Bacterial Genome Detection .....	C	H	A
Sequencing - Detection of Genome Fungi and Yeasts .....	C	H	A
Sequencing - Bacterial Genome Detection .....	C	H	A
Sequencing - Neonatal Screening .....	C	H	A
<i>Toxoplasma gondii</i> .....	C	H	A
Varicella Zoster .....	C	H	A
Parentage Testing (Paternity/Maternity) .....	C	H	A
Molecular Epidemiology Surveillance .....	C	H	A
Zika virus .....	C	H	A

**Hematology / Hematology**

Bone Marrow Biopsy .....	C	H	A
Hematology Automation .....	C	H	A
Hematology .....	C	H	A

Hemoparasitology .....	C	H	A
Myelogram .....	C	H	A
LE Cell Search .....	C	H	A
Heinz Corpuscle Research .....	C	H	A
Automated Reticulocytes .....	C	H	A
Manual Reticulocytes .....	C	H	A
Donor Selection .....	C	H	A
Erythrocyte Sedimentation Rate (ESR) .....	C	H	A

**Blood components**

Blood components .....	C	H	A
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**Histocompatibility**

Antigen HLA-B-27 .....	C	H	A
Molecular Typification HLA .....	C	H	A

**Immunoassays/Endocrinology**

Anemia .....	C	H	A
Catecholamines .....	C	H	A
Hormones .....	C	H	A
Hypertension Markers .....	C	H	A
Bone Marrow / Growth Markers (Serum and Urine) .....	C	H	A
Tumor Markers .....	C	H	A
Lipid profile .....	C	H	A
Procalcitonin .....	C	H	A

**Immunochemistry/Transfusion Medicine**

Immunochemistry - Automation .....	C	H	A
Immunochemistry - Elution .....	C	H	A
Immunochemistry - Rh and Kell Phenotypes .....	C	H	A
Immunochemistry - General .....	C	H	A
Immunochemistry - IAI .....	C	H	A
Immunochemistry - Crossmatch .....	C	H	A
Immunochemistry - TAD .....	C	H	A
Immunochemistry - Anti-A Anti-B and Anti-D Titer .....	C	H	A

**Immunology / Proteins**

Allergy .....	C	H	A
Anticardiolipin .....	C	H	A
Anti-CCP .....	C	H	A
Antiphospholipid Antibodies .....	C	H	A
Antistreptolysin O .....	C	H	A
Anti-thyroperoxidase (Anti-TPO) .....	C	H	A
Autoimmunity .....	C	H	A
Cryoglobulins .....	C	H	A
ANA Hep-2 .....	C	H	A
Rheumatoid Factor .....	C	H	A
Circulating Immunocomplexes .....	C	H	A
Immunofixation of Proteins - Serum .....	C	H	A
Interleukins .....	C	H	A
C Reactive Protein (CRP) .....	C	H	A
Specific Proteins, Protein Electrophoresis and Immunoproteins .....	C	H	A



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**Body liquids**

Vitreous humor	C	H	A
Cavity Liquids Cell Count by Automation	C	H	A
Multiparameter Cavity Liquids	C	H	A
Sinovial Liquid Crystals / Crystalline Structures	C	H	A
Cristalinas	C	H	A
CSF - Amino Acid	C	H	A
CSF - Automated Cell Counting	C	H	A
CSF - Immunology	C	H	A
CSF - Alzheimer's Markers	C	H	A
CSF - Tumor Markers	C	H	A
CSF - Microscopy	C	H	A
CSF - Multiparameter	C	H	A
CSF - HIV Research	C	H	A
CSF - HTLV Search	C	H	A
Eosinophil Research: Nasal Mucus	C	H	A
Saliva	C	H	A
Sweat	C	H	A

**Cardiac Markers**

Coenzyme Q10	C	H	A
Cardiac Markers	C	H	A
C Reactive Protein (hsPCR)	C	H	A

**Maternal-Fetal Medicine**

Fetal Risk Assessment: 1st trimester	C	H	A
Fetal Risk Assessment: 2nd trimester	C	H	A
Bacteriology - Amniotic Liquid	C	H	A
GRAM Bacterioscopy	C	H	A
Biochemistry - Amniotic Liquid	C	H	A
Lamellar Body Count (CCL)	C	H	A
Fetal Growth	C	H	A
Fetal Fibronectin	C	H	A
Vaginal wash	C	H	A
Evaluation of fetal bilirubin	C	H	A
Pre-eclampsia Markers	C	H	A
Pulmonary maturity	C	H	A
Hemoglobin F Research - Flow Cytometry	C	H	A
Surfactant / Albumin ratio (TDx-FLMII)	C	H	A
Premature rupture of membranes	C	H	A
Clement's Test (TC)	C	H	A
Maternal Screening	C	H	A
Crystallization Test (Ferning Test)	C	H	A
Test of lanetta	C	H	A
PH Determination Test	C	H	A
Phenol Testingl	C	H	A
Nile Blue Test (Kittrich)	C	H	A
Kleihauer-Betke test (Hemoglobin F)	C	H	A
Rosette Test	C	H	A

**Reproduction Medicine**

Biochemistry of Sperm	C	H	A
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Sperm Cell Count by Automation	C	H	A
Sperm Cell Count on camera	C	H	A
Sperm Morphology	C	H	A
Sperm Motility	C	H	A
Sperm Vitality	C	H	A

**Microbiology**

Adenovirus - Antigen	C	H	A
AFB Bacilloscopy	C	H	A
Ambulatory and Hospital Bacteriology	C	H	A
GRAM Bacterioscopy	C	H	A
<i>Bordetella sp.</i> - Culture	C	H	A
<i>Clostridium difficile</i> - Toxin A and B	C	H	A
<i>Clostridium difficile</i> - Antigen	C	H	A
Coronavirus: Antigen Research	C	H	A
Colon Count - Urine	C	H	A
Coproculture	C	H	A
<i>Cryptococcus neoformans</i> - Antigen	C	H	A
Culture of Epidemiological Surveillance (CES)	C	H	A
Dosage of Beta D-glucan	C	H	A
Dosage of Galactomannan	C	H	A
<i>Giardia lamblia</i> - Antigen	C	H	A
Leprosy	C	H	A
<i>Helicobacter pylori</i> - Antigen	C	H	A
<i>Helicobacter pylori</i> - Ureasa	C	H	A
Anaerobic Blood Culture	C	H	A
Histoplasmosis - Antigen	C	H	A
<i>Legionella</i> - Antigen	C	H	A
<i>Legionella pneumophila</i> - antigen	C	H	A
Micobacteriology	C	H	A
Mycology	C	H	A
<i>Legionella pneumophila</i> - Culture	C	H	A
<i>Helicobacter pylori</i> - Antigen	C	H	A
Meningitis Panel	C	H	A
Parasitology	C	H	A
Acanthamoeba Research	C	H	A
Anaerobic Research	C	H	A
Diphtheria Bacillus Research - Microscopy	C	H	A
<i>Pneumocystis jirovecii</i>	C	H	A
Rotavirus - Antigen	C	H	A

**Therapeutic Drugs Monitoring**

Immunosuppressive Drugs	C	H	A
Therapeutic Drugs	C	H	A

**Clinical Chemistry**

Amino Acids - Plasma	C	H	A
Biochemistry	C	H	A
Biliary Calculus	C	H	A
Serum Calprotectin	C	H	A
Cystatin C	C	H	A
C Vitamin	C	H	A
K Vitamin	C	H	A



**C** Clinical Analyzes   **H** Hemotherapy   **A** Pathological Anatomy and Cytopathology

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**RDT/ Point of Care (POC)**

Anti-HBs	C	H	A
Anti-HCV	C	H	A
Anti-HIV	C	H	A
Chagas	C	H	A
Biochemistry	C	H	A
BNP	C	H	A
Ketone	C	H	A
<i>Chlamydia: antigen</i>	C	H	A
Coagulation	C	H	A
Mycobacterium tuberculosis complex: antigen	C	H	A
Coronavirus (SARS-CoV2): antigen	C	H	A
D-dimer	C	H	A
Drugs of Abuse	C	H	A
Filariosis	C	H	A
Glucose	C	H	A
HBsAg	C	H	A
HCG (Serum and Urine)	C	H	A
Hemoglobin - HemoCue (Donor Selection)	C	H	A
Hormones	C	H	A
Coronavirus Immunology (SARS-CoV2)	C	H	A
Immunology Yellow Fever	C	H	A
Influenza A and B	C	H	A
Lactoferrin	C	H	A
<i>Legionella Pneumophila: antigen</i>	C	H	A
Metabolism Markers Bone/Growth:			
Serum	C	H	A
Tumor Markers	C	H	A
Cardiac Panel	C	H	A
Coronavirus Neutralizing Antibodies Research (SARS-CoV2)	C	H	A
Cardiac C-reactive protein	C	H	A
Syphilis	C	H	A
<i>Group A Streptococcus: antigen</i>	C	H	A
Troponin I	C	H	A
Troponin T	C	H	A

Urine Biochemistry	C	H	A
Respiratory Syncytial Virus (RSV)	C	H	A

**Occupational Toxicology/Abuse Drugs**

Drugs of Abuse - Hair	C	H	A
Drugs of Abuse - Saliva	C	H	A
Drugs of Abuse - Urine by Automation	C	H	A
Organochlorines and Organophosphates	C	H	A
Toxicology (Serum, Urine and Total Blood)	C	H	A
Toxicology - Volatile (Serum, Urine and Total Blood)	C	H	A

**Urinalysis**

Organic Acids	C	H	A
Urinary Sugars (Carbohydrates)	C	H	A
Amino Acids - Urine	C	H	A
Kidney Stone	C	H	A
Cytomegalic Inclusion Cells	C	H	A
Protein Electrophoresis - Urine	C	H	A
Mucopolysaccharides	C	H	A
Research on Erythrocytic Dysmorphism	C	H	A
Eosinophils Research: Urine	C	H	A
Porphyryns	C	H	A
Porphobilinogen (PBG)	C	H	A
Absorption test of D-xylose	C	H	A
Risk of Kidney Stones	C	H	A
Urinalysis - Biochemistry	C	H	A
Abnormal Urinalysis	C	H	A
Urinalysis - Sedimentoscopy and counting by Field and Chamber	C	H	A
Urinalysis - Automated Sedimentoscopy	C	H	A
Urinalysis Sedimentation - Identification	C	H	A

**Processes Qualification**

Physical and Chemical Analysis of Water	C	H	A
Microbiological Analysis of Water	C	H	A
Spectrophotometer	C	H	A

C Clinical Analyzes    H Hemotherapy    A Pathological Anatomy and Cytopathology



See more program details in our Online Catalog





## Indicators that promote results for the laboratory

To promote effective process improvements, improve performance, identify new opportunities and keep the organization sustainable, **the laboratory needs to quantify its performance and compare it with the market.**

PBIL is a laboratory management solution developed in partnership with SBPC/ML - Brazilian Society of Clinical Pathology/Laboratory Medicine, a Controllab partner since 1977.

By participating in PBIL, the laboratory identifies in real time whether the efforts and strategies applied in the processes are competitive against their peers, based on concrete evidence. This evidence helps to reduce costs, **increase efficiency and routine productivity.**



The data reported in the program are analyzed by a multidisciplinary team (including statisticians) at Controllab, which **acts as a third-party company, providing impartiality** and confidentiality to the reported data.



Controllab follows a code of ethical conduct & compliance integrated with national and international laws for the general protection of data. The program has a detailed manual and description for reliability and standardization of information.

### Operation

Monthly, the laboratories access the benchmarking from data reported or obtained directly from the LIS. When registering, the laboratory receives a password to access the Online System on the Controllab website.

The guarantee of confidentiality is provided by a unique and non-transferable participation code and the use of exclusive passwords to access data.



Broad and comprehensive scope of indicators



Comparison between networks (support or brands)



Setting goals to achieve certain goals



Indicators internationally harmonized and aligned with the IFCC



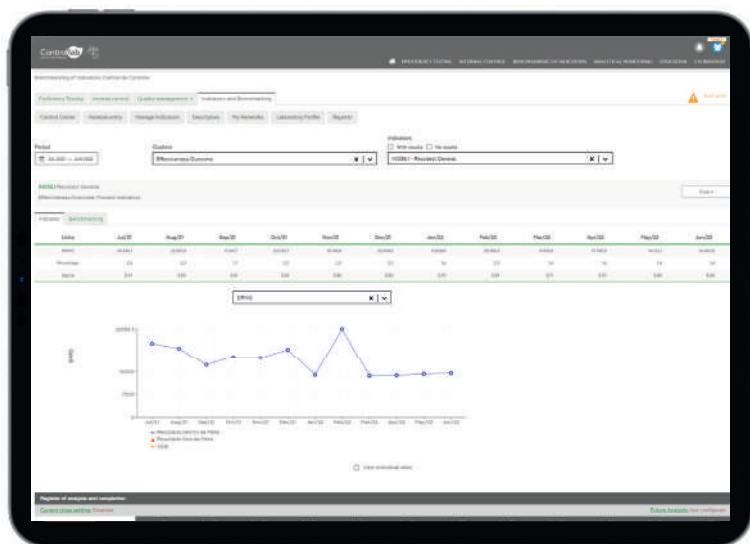
Integration with LIS providers to simplify data collection



Advisory Group of Experts active in monitoring the program



Learn more about Benchmarking Program for Laboratory Indicators



## Efficient processes have effective indicators

### Indicators Available in PBIL

There are more than 150 indicators available for the laboratory.

To simplify data collection and improve access to information, partner companies integrate the LIS with the PBIL, promoting more agility in processes and reliability in the information made available in real time for decision-making.

This convenience is already available in the solutions of the following partners: **Confidentia, Karyon, Matrix and Pixeon**. Consult them to know the integrated systems.



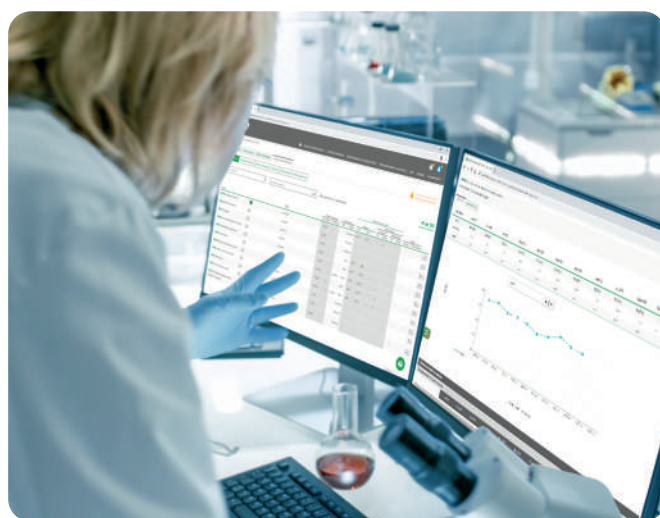
Consult them to know the integrated systems

## RESOURCES MANAGEMENT INDICATORS

- » Corrective maintenance index
- » **Mean time between failures:** biochemistry equipment (MTBF)
- » Staff expenses
- » **Distribution of expenses:** physical area and resources, secondary, equipment, materials, personnel, services and transport
- » Disallowances general and by operator
- » Absenteeism
- » Hours worked
- » **Personal productivity:** general, pathological anatomy and cytopathology, billing, reception, receptionist, technique, own and franchised collector
- » **Rotativity:** general and reception
- » **Training:** enforcement of planned training load, training events, hour of training and internal training
- » **LIS Efficiency:** episodes of system crash, self-check results efficiency and times of system crash

## ORGANIZATIONAL MANAGEMENT INDICATORS

- » Received and responded customer manifestations
- » **Customer satisfaction:** individual and physician
- » Net Promoter Score (NPS)
- » Participation in research of Net Promoter Score (NPS)



Learn more about Benchmarking Program for Laboratory Indicators

## PROCESS INDICATORS

- » **Storage error:** incorrect storage before scanning
- » **Transport error:** samples damaged during transport, samples with excessive transport time, samples transported at incorrect temperature and samples not received
- » **Collection error:** incorrect container, volume insuficiente, proporção incorreta do volume de amostra/anticoagulante, incorrect sample
- » Coagulated samples
- » **Contamination:** samples of microbiology, hemoculture samples and urine culture samples
- » **Hemolysis:** samples in general and biochemistry area
- » Samples with less than 2 patient-related identifiers
- » Samples with error in patient identification
- » Unidentified samples
- » Errors in patient identification
- » **Tests incorrectly added and not included in the medical requisition:** nonhospitalized and hospitalized
- » **Exams not registered:** non-hospitalized and hospitalized
- » **Incorrect exams name:** non-hospitalized and hospitalized
- » Collection in inappropriate time
- » **Inappropriate medical requests related to informed clinical issues:** non-hospitalized and hospitalized
- » **Medical requests without clinical questions:** non-hospitalized
- » **Non-intelligible medical requests:** non-hospitalized and hospitalized
- » TAT preanalytical by exams
- » Transcription errors of results due to LIS failure
- » Errors in manual transcription of results
- » **Proficiency Testing:** inadequate performance related to previously treated cause
- » **Proficiency Testing:** inappropriate performance
- » **Internal Control:** tests with out-of-specification results
- » **Internal Control:** Analytical Runs with Random Error (RE) above the comparison group (by examination)
- » **Internal Control:** EA per exam, EA per exam/equipment and EA per reagent/batch
- » **Technical production:** by exam and by equipment
- » **Tubes collected per patient:** general and laminated by tube type
- » **Tube exams:** general and laminated by tube type
- » TAT analytical phase (by exams)
- » Unpublished reports
- » Index of interpretive comments in report
- » Incorrect reports
- » Failure to communicate critical results
- » **Communication of late critical results:** non-hospitalized

and hospitalized patients

- » **Average time for reporting critical outcomes:** non-hospitalized and hospitalized patients
- » **Delayed Outcomes:** non-hospitalized patients
- » **TAT 90 Percentile:** INR, Potassium, Troponin and WBCTAT Global (by exam)
- » TAT post-analytical phase by exams
- » **Recollect:** general, non-hospitalized and hospitalized patients
- » Incorrect results released
- » Accidents with sharps
- » **Accident at work:** general



## DEMORAPHIC INDICATORS

- » **Report delivery:** by email, by web, at home, by phone or fax and collected in the laboratory
- » **Examinations per patient:** general and stratified by public, private and health insurance
- » Public served, outpatients and inpatients
- » **Recollection system:** own, third-party and franchised patients
- » Outsourcing
- » Average ticket
- » **Exam volume:** private, operator, public and courtesy



Learn more about Benchmarking Program for Laboratory Indicators



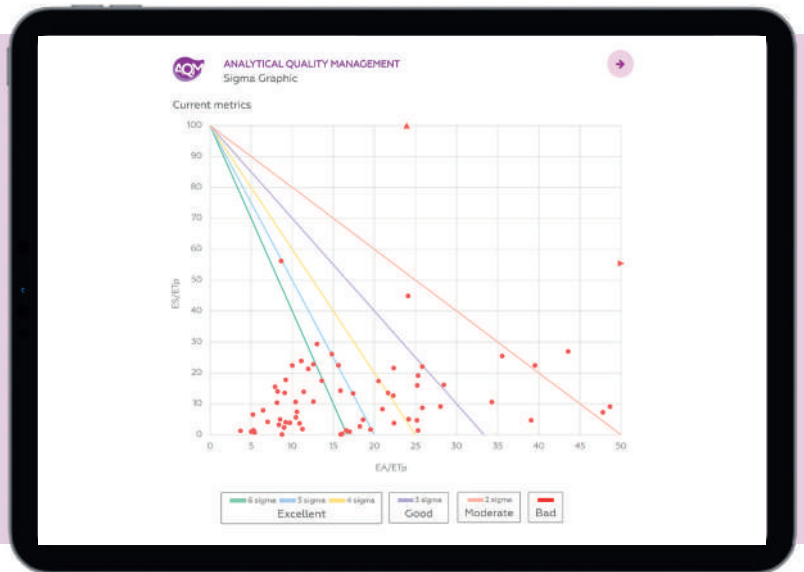
## Planning and monitoring of analytical performance

In Analytical Quality Management (AQM), information on the performance of the exam in the Proficiency testing and in the Internal Control are unified to define the Analytical Quality Specification strategy, **expanding the analysis of the analytical performance of the exam. With that, the definitions occur with less than 3 minutes/exam.**

## MORE CONFIDENCE IN EXAM RESULTS

By evaluating the cross-data between the leading exam control solutions, the laboratory delivers faster, more accurate and safer results to the patient.

**The laboratory only looks at what really needs attention.**



### PROVES TECHNICAL COMPETENCE

**It keeps the inaccuracy and inaccuracy of the analyzes under control**, in accordance with the goals established by the laboratory and analytical indicators that simplify the management.



### FAVORS OBTAINING CERTIFICATIONS AND ACCREDITATIONS

The AQM maintains records and tracking of actions on results, favoring transparency for accreditations, which require the demonstration of **objective evidence that proves the planning, monitoring and evaluation of the routine analytical.** The definitions that meet the predefined requirements are automatically completed by the system.



### REDUCES ANALYTICAL COSTS AND INCREASES PRODUCTIVITY

**It reduces the use of reagents** associated with analyzes caused by false rejections, lack of analytical planning or inadequate use of control rules.



### MAKES QUALITY SPECIFICATION UNCOMPLICATED

Didactically **compact** the main references of **Biological Variation and State of the Art to define the specification strategy.** Develops a culture of analytical determination in teams.





## It complements quality control tools and ensures analytical accuracy.

The Reference Material (RM) is an ally of the diagnostic sector, contributing to the analytical processes of IVD (InVitro Diagnostic) manufacturers and laboratories. The RM has **proven commutativity** that it has the same behavior as the clinical sample. That is, with the same characteristics, not undergoing significant changes during the preparation process.



It can be used for evaluation of Automation and RDT systems (Rapid Diagnostic Test / POC - Point of Care).



The RM for Covid-19 is lyophilized. This feature preserves the material during transport.

The application of the RM complements the quality control tools, such as the **Proficiency Testing and Internal Control**, regarding the verification of effectiveness, methodological validation, implementation and selection of analytical systems, in addition to the evaluation of processes.



Learn more about Reference Materials for Covid-19



## Insert more accuracy and traceability to the analytical process

Attentive to the needs of the laboratory public, Controllab provides Certified Reference Materials (CRM), an important tool in the quality control of analytical routines.

## CHEMICAL PROPERTY

### Potencial Redox

- » CRM Redox Potential 200,0 mV
- » CRM Redox Potential 229,0 mV
- » CRM Redox Potential 400,0 mV
- » CRM Redox Potential 476,0 mV

### Electrolytic Conductivity Solution

- » CRM Electrolytic Conductivity Solution 1,50  $\mu\text{S}/\text{cm}$
- » CRM Electrolytic Conductivity Solution 5,00  $\mu\text{S}/\text{cm}$
- » CRM Electrolytic Conductivity Solution 25,00  $\mu\text{S}/\text{cm}$
- » CRM Electrolytic Conductivity Solution 50,00  $\mu\text{S}/\text{cm}$
- » CRM Electrolytic Conductivity Solution 100,0  $\mu\text{S}/\text{cm}$
- » CRM Electrolytic Conductivity Solution 500,0  $\mu\text{S}/\text{cm}$
- » CRM Electrolytic Conductivity Solution 1400  $\mu\text{S}/\text{cm}$
- » CRM Electrolytic Conductivity Solution 5000  $\mu\text{S}/\text{cm}$
- » CRM Electrolytic Conductivity Solution 12800  $\mu\text{S}/\text{cm}$

### Electrochemical Multiparameter Solution

- » CRM Electrochemical Multiparameter Solution I (pH: 4,000 and Conductivity: 4500  $\mu\text{S}/\text{cm}$ )

### Buffer Solution for pH

- » CRM Buffer Solution for pH 1,7
- » CRM Buffer Solution for pH 4,0
- » CRM Buffer Solution for pH 6,9
- » CRM Buffer Solution for pH 9,2
- » CRM Buffer Solution for pH 10,0

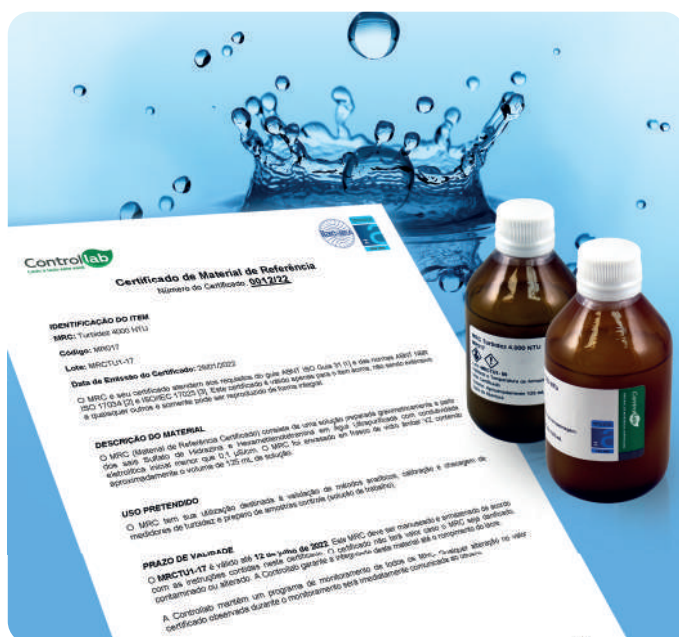
## PHYSICAL PROPERTY

### Degree Brix at 20 °C

- » CRM Refractive Index at 20 °C: 0,0 g/100 g
- » CRM Refractive Index at 20 °C: 12,0 g/100 g
- » CRM Refractive Index at 20 °C: 35,0 g/100 g
- » CRM Refractive Index at 20 °C: 49,0 g/100 g
- » CRM Refractive Index at 20 °C: 60,0 g/100 g

### Turbidity

- » CRM Turbidity 4000 NTU



Learn more about Certified Reference Materials

## CLINICAL AND BIOLOGICAL PROPERTIES

### CRM Qualitative Reference Cultures

CRM	NCTC®	WDCM	ATCC®
CRM <i>Acinetobacter baumannii</i>	12156	—	19606
CRM <i>Acinetobacter baumannii</i>	13304	—	—
CRM <i>Aeromonas hydrophila</i>	12902	—	35654
CRM <i>Alcaligenes faecalis</i>	12904	—	35655
CRM <i>Bacillus cereus</i>	10320	00001	11778 19637 / 9634
CRM <i>Bacillus subtilis</i>	10400	00003	6633
CRM <i>Bacteroides fragilis</i>	9343	—	25285
CRM <i>Burkholderia cepacia</i>	10743	—	25416
CRM <i>Campylobacter jejuni</i>	11351	—	33560
CRM <i>Campylobacter jejuni</i>	13367	00005	33291
CRM <i>Clostridium perfringens</i>	8237	00007	13124 / 19408
CRM <i>Clostridium perfringens</i>	13170	00201	—
CRM <i>Clostridium sporogenes</i>	12935	—	11437
CRM <i>Cronobacter sakazakii</i>	11467	00214	—
CRM <i>Enterobacter cloacae</i>	10005	00083	13047
CRM <i>Enterococcus faecalis</i>	775	00009	19433
CRM <i>Enterococcus faecalis</i>	12697	00087	29212
CRM <i>Enterococcus faecalis</i>	13379	00085 / 00152	51299
CRM <i>Enterococcus faecalis</i>	13763	00210	33186
CRM <i>Enterococcus faecium</i>	12202	—	—
CRM <i>Escherichia coli</i>	11954	—	35218
CRM <i>Escherichia coli</i>	12241	00013	25922
CRM <i>Escherichia coli</i>	12900	00014	700728
CRM <i>Escherichia coli</i>	13216	00202	—
CRM <i>Escherichia coli</i>	13353	—	—
CRM <i>Escherichia coli</i>	13476	—	—
CRM <i>Escherichia coli</i>	13846	—	—
CRM <i>Escherichia coli</i>	12923	00012 / 00196	8739
CRM <i>Haemophilus influenzae</i>	8468	—	—
CRM <i>Haemophilus influenzae</i>	12699	—	49247
CRM <i>Haemophilus influenzae</i>	12975	—	49766
CRM <i>Haemophilus influenzae</i>	13377	—	10211
CRM <i>Klebsiella aerogenes</i>	10006	00175	13048
CRM <i>Klebsiella pneumoniae</i>	9633	00097	13883
CRM <i>Klebsiella pneumoniae</i>	13368	—	700603
CRM <i>Klebsiella pneumoniae</i>	13438	—	—
CRM <i>Klebsiella pneumoniae</i>	13440	—	—
CRM <i>Klebsiella pneumoniae</i>	13442	—	—
CRM <i>Klebsiella pneumoniae</i>	13443	—	—
CRM <i>Klebsiella pneumoniae</i>	13809	—	BAA 1705

CRM	NCTC®	WDCM	ATCC®
CRM <i>Listeria innocua</i>	11288	00017	33090
CRM <i>Listeria monocytogenes</i>	11994	00019	—
CRM <i>Listeria monocytogenes</i>	13372	—	7644
CRM <i>Neisseria gonorrhoeae</i>	8375	—	19424
CRM <i>Neisseria gonorrhoeae</i>	12700	—	49226
CRM <i>Pseudomonas aeruginosa</i>	10662	00114	25668
CRM <i>Pseudomonas aeruginosa</i>	12903	00025	27853
CRM <i>Salmonella enterica</i>	6017	00029	BAA-2162
CRM <i>Salmonella enterica</i>	12023	00031	14028
CRM <i>Staphylococcus aureus</i>	6571	00035	9144
CRM <i>Staphylococcus aureus</i>	7447	00033/00195	6538P
CRM <i>Staphylococcus aureus</i>	10788	00032 / 00193	6538
CRM <i>Staphylococcus aureus</i>	12493	00212	—
CRM <i>Staphylococcus aureus</i>	12973	00131	29213
CRM <i>Staphylococcus aureus</i>	12981	00034	25923
CRM <i>Staphylococcus aureus</i>	13373	00211	43300
CRM <i>Staphylococcus aureus</i>	13552	—	—
CRM <i>Staphylococcus aureus</i>	13811	—	BAA-977
CRM <i>Staphylococcus aureus</i>	13812	—	BAA 976
CRM <i>Staphylococcus aureus</i>	13813	—	BAA 1708
CRM <i>Staphylococcus aureus</i>	14033	—	BAA 1026
CRM <i>Staphylococcus epidermidis</i>	11047	00132	14990
CRM <i>Staphylococcus epidermidis</i>	13360	00036	12228
CRM <i>Streptococcus agalactiae</i>	8181	—	13813
CRM <i>Streptococcus pneumoniae</i>	12977	—	49619
CRM <i>Streptococcus pyogenes</i>	12696	—	19615




 **Meets BrCAST recommendations**

 **Meets CLSI recommendations**

**Note 1:** The NCTC strains authorized by UKHSA are equivalent to the ATCC® strains referred to in this table.



**Control**lab <sup>45</sup> YEARS  
Side by side with you

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