

HAVE AN ENVIRONMENT  
**WITH ANALYSIS  
OF EXCELLENCE**

**Solutions that  
Promote Quality**



Periodically checks the accuracy of the results.



It monitors systems analytical performance with each routine.



The Bacteria Library and Fungal Collection of your laboratory.



Monitors laboratory requirements and improves operational results.



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



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.

+15  
years

of accreditations  
Cgcre/Inmetro

04

accreditations  
with recognized  
internationally

+3500 tests



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



Sistema da Qualidade Certificado



## Learn more about 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.

## 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:

## CLÍNICAL

- ✓ 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

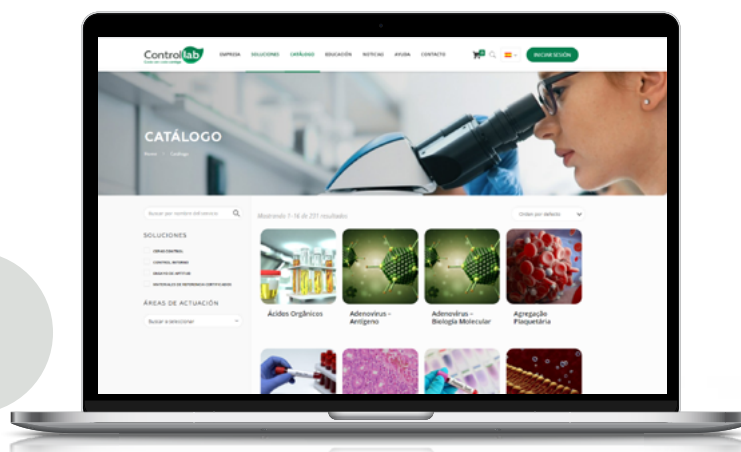
## PHYSICOCHEMICAL

Multiple analysis for tests laboratory, among them:

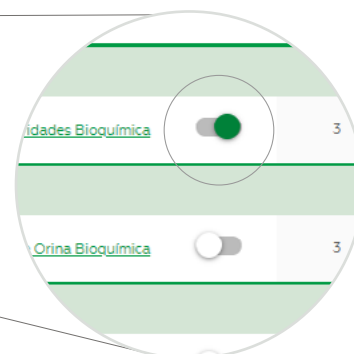
- ✓ Fuels
- ✓ Pharmaceutical Ingredients

**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**

[illegible]

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

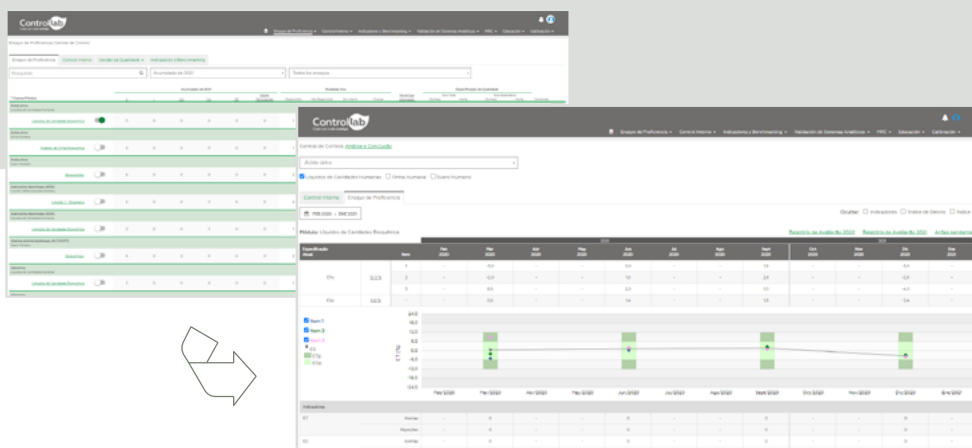


**follow-up exams**

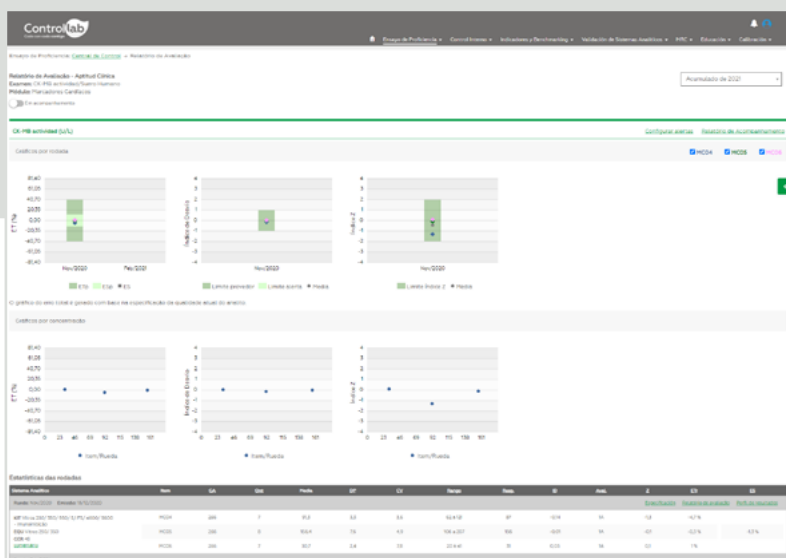


**Learn more about Proficiency Testing**

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

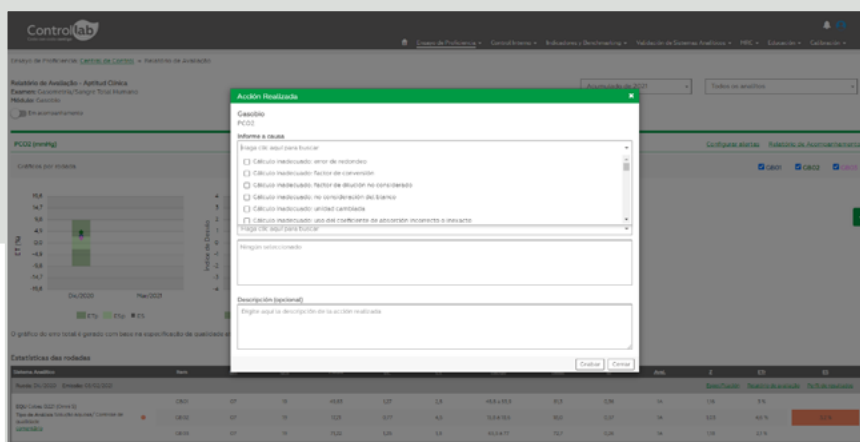


**Graphs in period evaluation**  
and **over time** to analyze  
trends and help prevent and  
identify the causes of non-  
conforming results.

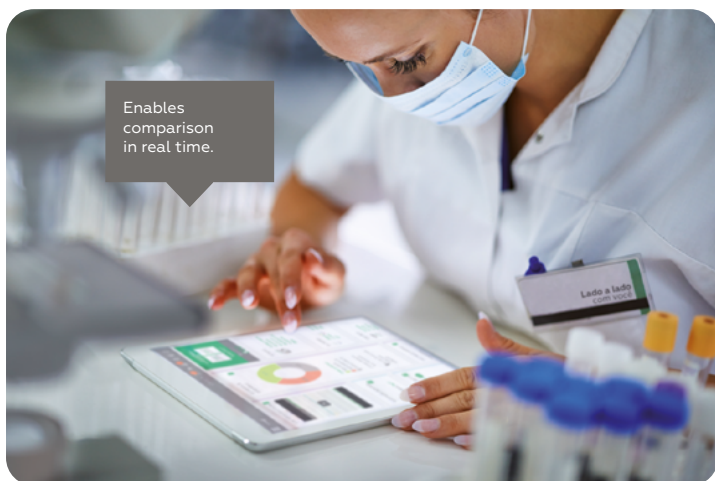


**History and tracking**  
actions on the results  
that show the treatment  
of results for audits and  
promote the evolution of  
management.

list of causes  
and actions  
options



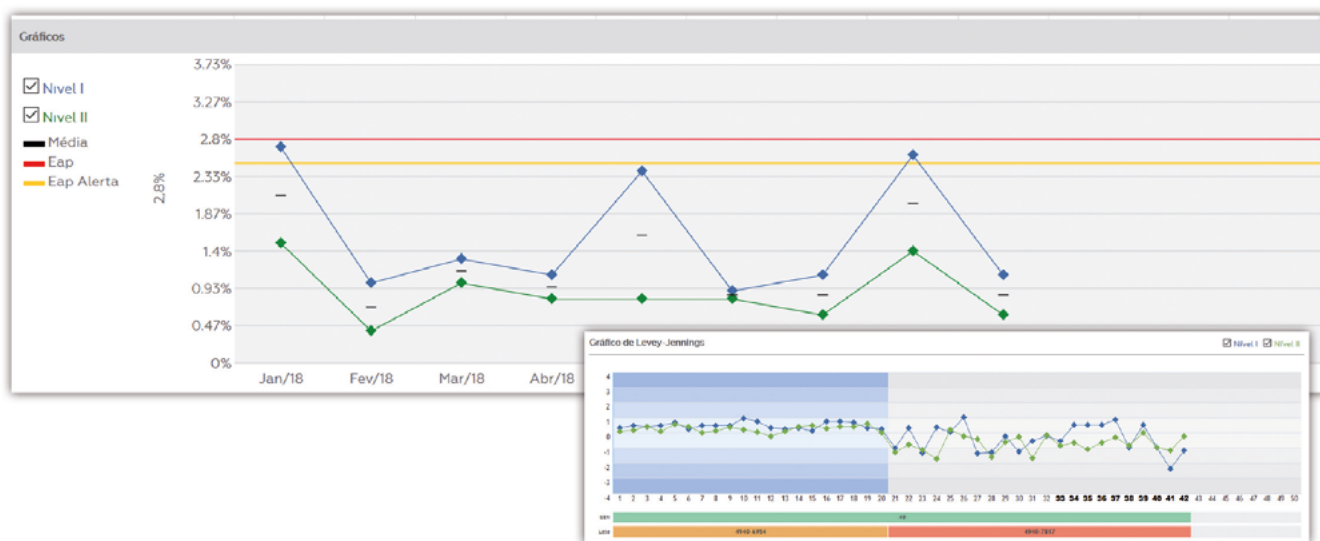
Learn more about Proficiency Testing



## 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 lab's job.

### Routine maintenance of strain

Inoculum  
Seeding  
Incubation  
Cryoprotectant  
Sterile Vials  
Freeze dryer  
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 Control Strains 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.

➔ with unique identification for your laboratory

**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 **Control Strain 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.



Learn more about Strains Control

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



### Gram CONTROL

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



### BAAR 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.

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 subsp. Zooepidemicus</i>	7023	43079	—
<i>Streptococcus mutans</i>	10449	25175	—
<i>Vibrio furnissii</i>	11218	—	00186
<i>Vibrio parahaemolyticus</i>	10903	17802	00037

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

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

### Anatomía Patológica/Citopatología

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

### Coprology/Occult Blood

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
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	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
Aspergillus sp. - Antibodies	C	H	A
Bartonella henselae - Antibodies	C	H	A
Bartonella quintana - Antibodies	C	H	A
Borrelia burgdorferi - Antibodies	C	H	A
Brucellosis	C	H	A
Candida albicans - Antibodies	C	H	A
Mumps	C	H	A
Chikungunya	C	H	A
Chlamydia trachomatis	C	H	A
Cytomegalovirus (CMV)	C	H	A

Clostridium tetani - Antibodies	C	H	A
Dengue IgG, IgM y Ns1	C	H	A
Entamoeba histolytica - Antibodies	C	H	A
Yellow fever	C	H	A
Giardia lamblia - Antibodies	C	H	A
Helicobacter pylori - Antibodies	C	H	A
Herpes (HSV)	C	H	A
Histoplasmosis	C	H	A
Leptospirosis	C	H	A
Mycoplasma pneumoniae	C	H	A
Parainfluenza 1,2,3 and 4 - Antibodies	C	H	A
Erythrovirus B19 - Antibodies	C	H	A
Widal Reaction	C	H	A
Rubella	C	H	A
Measles	C	H	A
SARS-Cov2(Covid-19)	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

Adenovirus	C	H	A
Aspergillus sp.	C	H	A
Bordetella pertussis	C	H	A
Brucella spp.	C	H	A
Chikungunya	C	H	A
Chlamydia trachomatis	C	H	A
Cytogenetics Karyotype - G-band	C	H	A
Cytomegalovirus	C	H	A
Clostridium difficile	C	H	A
Dengue	C	H	A
Epstein Barr	C	H	A
Factor V Leiden	C	H	A
Yellow fever	C	H	A
Hepatitis Delta (HDV)	C	H	A
Hepatitis E (HEV)	C	H	A
Herpes Simplex Virus (HSV)	C	H	A
Histoplasma capsulatum	C	H	A
Molecular Biology I - HBV, HCV and HIV	C	H	A
Molecular Biology II - HTLV	C	H	A
Influenza A and B	C	H	A
Janus kinase 2 (JAK-2)	C	H	A
Legionella pneumophila	C	H	A
MTHFR	C	H	A
Mycobacterium tuberculosis	C	H	A



See more program details in our Online Catalog

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

<i>Mycoplasma pneumoniae</i> .....	<b>C</b>	<b>H</b>	<b>A</b>
NAT - Molecular Biology.....	<b>C</b>	<b>H</b>	<b>A</b>
<i>Neisseria gonorrhoeae</i> .....	<b>C</b>	<b>H</b>	<b>A</b>
Norovirus.....	<b>C</b>	<b>H</b>	<b>A</b>
Human Papillomavirus (HPV).....	<b>C</b>	<b>H</b>	<b>A</b>
<i>Paracoccidioides brasiliensis</i> .....	<b>C</b>	<b>H</b>	<b>A</b>
Prothrombin.....	<b>C</b>	<b>H</b>	<b>A</b>
Rotavirus.....	<b>C</b>	<b>H</b>	<b>A</b>
Fetal Sexing.....	<b>C</b>	<b>H</b>	<b>A</b>
<i>Sporothrix schenckii</i> .....	<b>C</b>	<b>H</b>	<b>A</b>
Genetic Link (Paternity / Maternity).....	<b>C</b>	<b>H</b>	<b>A</b>
Respiratory Viruses.....	<b>C</b>	<b>H</b>	<b>A</b>
Zika virus.....	<b>C</b>	<b>H</b>	<b>A</b>

### Hematology / Hematoscopy

Bone Marrow Biopsy.....	<b>C</b>	<b>H</b>	<b>A</b>
Hematology Automation.....	<b>C</b>	<b>H</b>	<b>A</b>
Hematoscopy.....	<b>C</b>	<b>H</b>	<b>A</b>
Hemoparasitology.....	<b>C</b>	<b>H</b>	<b>A</b>
Myelogram.....	<b>C</b>	<b>H</b>	<b>A</b>
LE Cell Search.....	<b>C</b>	<b>H</b>	<b>A</b>
Reticulocytes Automation.....	<b>C</b>	<b>H</b>	<b>A</b>
Reticulocytes Manual.....	<b>C</b>	<b>H</b>	<b>A</b>
Donor Selection.....	<b>C</b>	<b>H</b>	<b>A</b>
Erythrocyte sedimentation rate (ESR).....	<b>C</b>	<b>H</b>	<b>A</b>

### Blood components

Blood components.....	<b>C</b>	<b>H</b>	<b>A</b>
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### Histocompatibility

Antigen HLA-B-27.....	<b>C</b>	<b>H</b>	<b>A</b>
Molecular Typification HLA.....	<b>C</b>	<b>H</b>	<b>A</b>

### Immunoassays/Endocrinology

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

### Immunohematology/Transfusion Medicine

Immunohematology Automation.....	<b>C</b>	<b>H</b>	<b>A</b>
Immunohematology Eluate.....	<b>C</b>	<b>H</b>	<b>A</b>
Immunohematology Phenotyping RH and Kell.....	<b>C</b>	<b>H</b>	<b>A</b>
General Immunohematology.....	<b>C</b>	<b>H</b>	<b>A</b>
Immunohematology IAI.....	<b>C</b>	<b>H</b>	<b>A</b>
Immunohematology Cross-Exam.....	<b>C</b>	<b>H</b>	<b>A</b>
Immunohematology TAD.....	<b>C</b>	<b>H</b>	<b>A</b>
Immunohematology Titration Anti-A, Anti-B and Anti-D.....	<b>C</b>	<b>H</b>	<b>A</b>

### Immunology / Proteins

Allergy.....	<b>C</b>	<b>H</b>	<b>A</b>
Anticardiolipin.....	<b>C</b>	<b>H</b>	<b>A</b>
Anti-CCP.....	<b>C</b>	<b>H</b>	<b>A</b>
Antiphospholipid antibodies.....	<b>C</b>	<b>H</b>	<b>A</b>
Antistreptolysin O.....	<b>C</b>	<b>H</b>	<b>A</b>
Anti-thyroperoxidase (Anti-TPO).....	<b>C</b>	<b>H</b>	<b>A</b>
Autoimmunity.....	<b>C</b>	<b>H</b>	<b>A</b>
Cryoglobulins.....	<b>C</b>	<b>H</b>	<b>A</b>
FAN Hep2.....	<b>C</b>	<b>H</b>	<b>A</b>
Rheumatoid Factor.....	<b>C</b>	<b>H</b>	<b>A</b>
Circulating Immunocomplexes.....	<b>C</b>	<b>H</b>	<b>A</b>
Immunofixation of Proteins - Serum.....	<b>C</b>	<b>H</b>	<b>A</b>
Interleukins.....	<b>C</b>	<b>H</b>	<b>A</b>
C Reactive Protein (CRP).....	<b>C</b>	<b>H</b>	<b>A</b>
Specific Proteins, Protein Electrophoresis and Immunoproteins.....	<b>C</b>	<b>H</b>	<b>A</b>

### Body liquids

Vitreous humor.....	<b>C</b>	<b>H</b>	<b>A</b>
Cavity Liquids Cell Count by Automation.....	<b>C</b>	<b>H</b>	<b>A</b>
Multiparameter Cavity Liquids.....	<b>C</b>	<b>H</b>	<b>A</b>
Sinovial Liquid Crystals / Crystalline Structures.....	<b>C</b>	<b>H</b>	<b>A</b>
Amino Acid Liquor.....	<b>C</b>	<b>H</b>	<b>A</b>
Automated Cell Counting Liquor.....	<b>C</b>	<b>H</b>	<b>A</b>
Immunology Liquor.....	<b>C</b>	<b>H</b>	<b>A</b>
Alzheimer's Markers Liquor.....	<b>C</b>	<b>H</b>	<b>A</b>
Tumor Markers Liquor.....	<b>C</b>	<b>H</b>	<b>A</b>
Microscopy Liquor.....	<b>C</b>	<b>H</b>	<b>A</b>
Multiparameter Liquor.....	<b>C</b>	<b>H</b>	<b>A</b>
HIV Research Liquor.....	<b>C</b>	<b>H</b>	<b>A</b>
HTLV Search Liquor.....	<b>C</b>	<b>H</b>	<b>A</b>
Saliva.....	<b>C</b>	<b>H</b>	<b>A</b>
Sweat.....	<b>C</b>	<b>H</b>	<b>A</b>

### Cardiac Markers

Coenzyme Q10.....	<b>C</b>	<b>H</b>	<b>A</b>
Cardiac Markers.....	<b>C</b>	<b>H</b>	<b>A</b>
C Reactive Protein (hsPCR).....	<b>C</b>	<b>H</b>	<b>A</b>

### Maternal-Fetal Medicine

Fetal Risk Assessment: 1st trimester.....	<b>C</b>	<b>H</b>	<b>A</b>
Fetal Risk Assessment: 2nd trimester.....	<b>C</b>	<b>H</b>	<b>A</b>
Bacteriology - Amniotic Liquid.....	<b>C</b>	<b>H</b>	<b>A</b>
Bacterioscopy GRAM.....	<b>C</b>	<b>H</b>	<b>A</b>
Biochemistry - Amniotic Liquid.....	<b>C</b>	<b>H</b>	<b>A</b>
Lamellar Body Count (CCL).....	<b>C</b>	<b>H</b>	<b>A</b>
Fetal Growth.....	<b>C</b>	<b>H</b>	<b>A</b>
Fetal Fibronectin.....	<b>C</b>	<b>H</b>	<b>A</b>
Vaginal wash.....	<b>C</b>	<b>H</b>	<b>A</b>
Evaluation of fetal bilirubin.....	<b>C</b>	<b>H</b>	<b>A</b>



See more program details in our Online Catalog

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 Testngl	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

Sperm Biochemistry	C	H	A
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
Bacilloscopy BAAR	C	H	A
Ambulatory and Hospital Bacteriology	C	H	A
Bacterioscopy GRAM	C	H	A
<i>Clostridium difficile</i> - Toxin A and B	C	H	A
<i>Clostridium difficile</i> - Antigen	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 (CVE)	C	H	A
Dosage of Beta D-glucan	C	H	A
Dosage of Galactomannan	C	H	A
Leprosy	C	H	A
<i>Helicobacter pylori</i> - Antigen	C	H	A
<i>Helicobacter pylori</i> - Urease	C	H	A
Histoplasmosis - Antigen	C	H	A
<i>Legionella</i> - Antigen	C	H	A
Mycology	C	H	A
Norovirus - Antigen	C	H	A
Meningitis Panel	C	H	A
Parasitology	C	H	A
Search by Acanthamoeba	C	H	A
Anaerobic Research	C	H	A
<i>Pneumocystis jiroveci</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
Cystatin C	C	H	A

### TLR/ Point of Care (POC)

Biochemistry	C	H	A
BNP	C	H	A
Ketone	C	H	A
Coagulation	C	H	A
D-dimer	C	H	A
Drugs of Abuse	C	H	A
Group A Streptococcus: antigen	C	H	A
Filariasis	C	H	A
Glucose	C	H	A
HCG (Serum and Urine)	C	H	A
Hemoglobin - HemoCue (Donor Selection)	C	H	A
Troponin T	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

### Urinelysis

Organic Acids	C	H	A
Urinery Sugars (Carbohydrates)	C	H	A
Amino Acids - Urine	C	H	A
Renal Calculus	C	H	A
Cytomegalic Inclusion Cells	C	H	A
Protein Electrophoresis - Urine	C	H	A
Mucopolysacarideos	C	H	A
Research on Erythrocytic Dysmorphism	C	H	A
Porphyrins	C	H	A
Porphobilinogen (PBG)	C	H	A
Absorption test of D-xylose	C	H	A
Risk of Kidney Stones	C	H	A
Urinelysis Biochemistry	C	H	A
Urinelysis Abnormal Elements (EA)	C	H	A
Urinelysis Sedimentoscopy and counting by Field and Camera	C	H	A
Urinelysis Sedimentation by automation	C	H	A
Urinelysis 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



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.

## EQUIPMENT MANAGEMENT

- ▶ Corrective maintenance index
- ▶ **Mean time between failures:** Biochemistry equipment (MTBF)
- ▶ Staff expenses
- ▶ Distribution of the expenditure
- ▶ 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)

## 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:** Nonhospitalized 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:** 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
- ▶ **Tube exams:** General and laminated
- ▶ 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:** INR, Potassium, Troponin and WBC
- ▶ **TAT Global by exam:** General
- ▶ 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
- ▶ Exams per patient
- ▶ Audited publics
- ▶ Collection systematics
- ▶ Outsourcing
- ▶ Average ticket
- ▶ Volume of exams



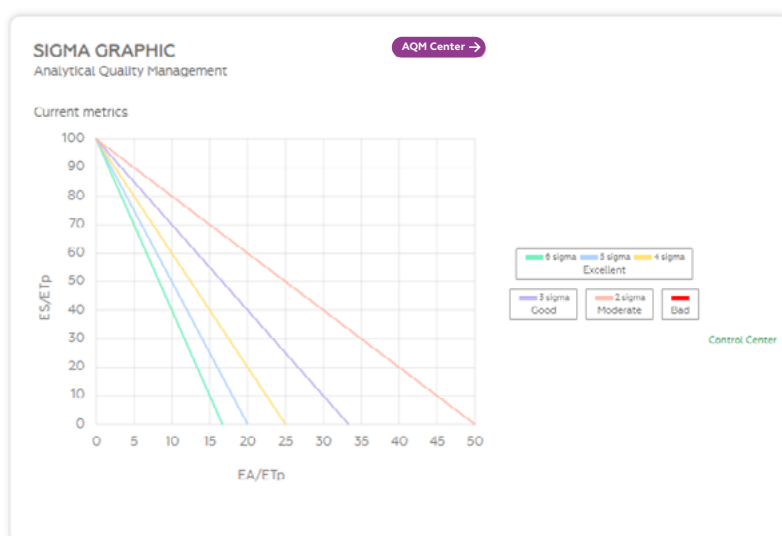
## Planning and monitoring of analytical performance

In Analytical Quality Management (AQM), information on the performance of the exam in the Proficiency Test 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 lab 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.



## 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

### Redox Potential

- CRM Redox Potential 200 mV
- CRM Redox Potential 229 mV
- CRM Redox Potential 400 mV
- CRM Redox Potential 476 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 1,680
- CRM Buffer Solution for pH 4,005
- CRM Buffer Solution for pH 6,865
- CRM Buffer Solution for pH 9,180
- CRM Buffer Solution for pH 10,012

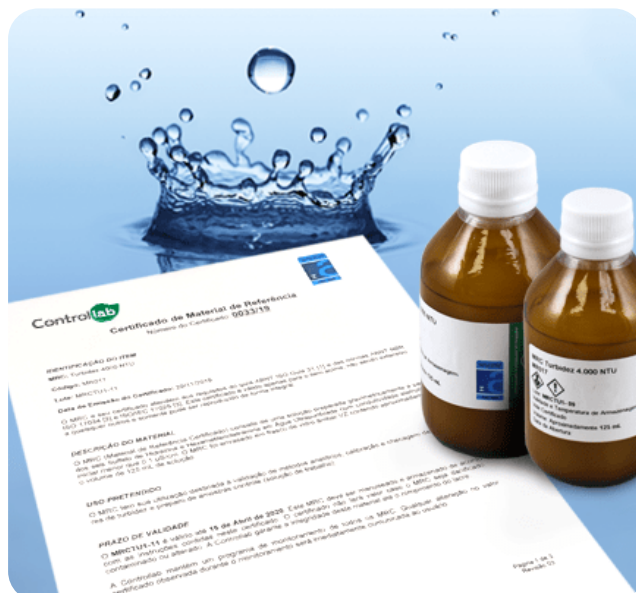
## PHYSICAL PROPERTY

### Refractive Index

- CRM Refractive Index at 20 °C: 1,3330 / Brix Grade at 20 °C: 0,0 g/100g
- CRM Refractive Index at 20 °C: 1,3500 / Brix Grade at 20 °C: 12,0 g/100g
- CRM Refractive Index at 20 °C: 1,3900 / Brix Grade at 20 °C: 35,0 g/100g
- CRM Refractive Index at 20 °C: 1,4200 / Brix Grade at 20 °C: 49,0 g/100g
- CRM Refractive Index at 20 °C: 1,4400 / Brix Grade at 20 °C: 60,0 g/100g

### 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

**Nota 1:** PHE licensed NTCT Strains are equivalent to the ATCC® strains referenced in this table





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