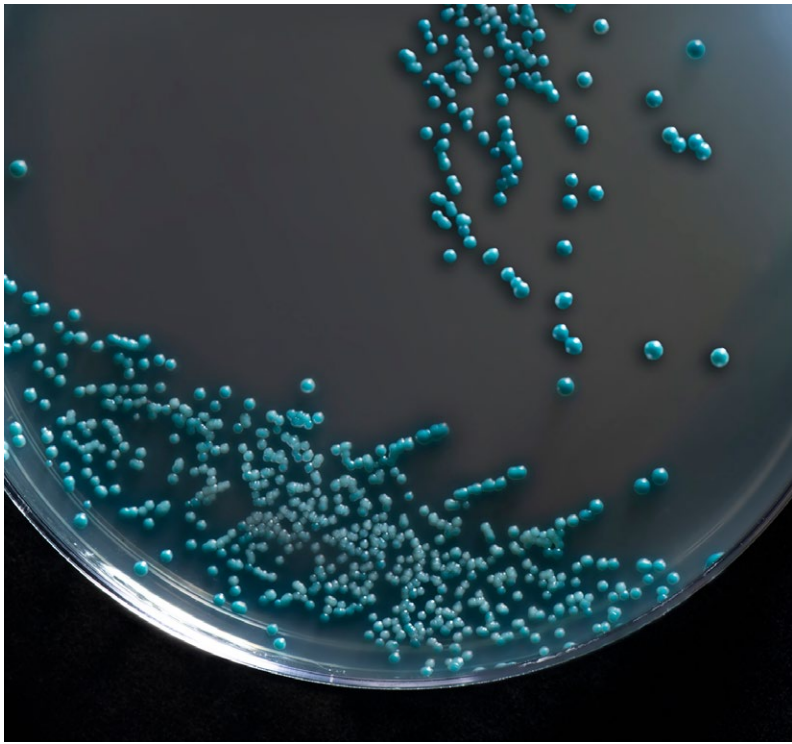


CANNABIS MICROBIOLOGY

PATHOGEN DETECTION • ENVIRONMENTAL MONITORING



PATHOGEN DETECTION

1. Prepare your sample and primary dilution



Weigh samples



Cat. no. 501103



See page 5 for Emulsifying Surfactants

2. Homogenize your sample using the MiniMix®



Keep particulates out of your dilution with use of a membrane filtration bag!

See page 3.
Cat. no. 211010



See page 4.
Cat. no. 100WCC

3. Pipet your sample and begin serial dilution



Cat. no. 211010



Manual

See page 5 for Diluents



Automated

See page 6 for Diligent Shaker.

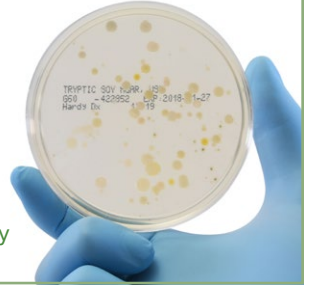
4.

Plating your sample

Hardy provides a full suite of products for pathogen and yeast and mold detection in both dehydrated media and prepared culture media formats.



CompactDry™



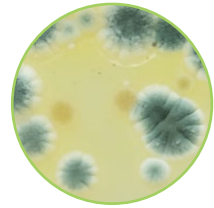
Tryptic Soy
Agar

5.

Incubation: Yeast and Mold vs. Bacteria



It is important to incubate your plates at the appropriate temperature for the target organism. Yeast and mold typically require lower temperature and longer incubation. Be sure to have the right equipment for each media application, and always consult your instructions for use for clarity.



6.

Colony counting



MANUAL
Cat. no. 435000



COMPACTDRY ONLY
Cat. no. CDR2



PETRI PLATE
Cat. no. 436300

BAGS AND ACCESSORIES



BagPage® Blender Bags with Filter

Blender bags with a full surface micro-perforated filter. Flora is extracted from the sample and goes through the filter during blending.

Sterile packs of 25, 100 ml, 180x95 mm, 500/box

121025

BagLight® Blender Bags without Filter

Blender bags without filter, for all microbiological uses in labs.

Sterile packs of 25, 100 ml, 110x190 mm, 500/box

BL100



BagClip® Closing Clips for Lab Blender Bags

BagClip® temporarily closes all types of bags, avoiding intermediary weldings.

Three-point closing system closes quickly, water and air-tight.

100ml bags, 50/pk

231010

BagRack® Storage Rack

The BagRack® bag holder allows for clean and methodical storage of bags.

Made of stainless steel, is stackable, and autoclavable.

Each

BR80100



BagOpen® Bag Opener Stand

Open the sample bag easily without any contact with the sample or use it as a bag holder to keep any bag open.

Each

211010

EQUIPMENT



DiluFlow® Single Pump Gravimetric Dilutor

Designed for the automatic dilution of a solid sample with the appropriate weight of diluent. Dilute your sample just by pressing 2 keys. Easy-to-use, DiluFlow® is the perfect entry level dilutor for your lab. In compliance with ISO 7218, ISO 6887-1 & FDA BAM
Each 501103

MiniMix® 100 Laboratory Blender

Designed for the blending of small samples. Thanks to the adjustable paddles, blending is more accurate and efficient.
Each 100WCC



easySpiral® Dilute Automatic Diluter and Spiral Plater

Enables serial dilutions up to 10^5 with increased accuracy. Very user-friendly, one button touch for routine serial dilutions and automatic plating.
Each 414000

Scan® 100 Manual Colony Counter

A high-tech manual colony counter with user-friendly functions and wonderful ergonomoy. An LED lighting system with Dark-Field technology gives an accurate and contrasted view of the colonies.
Each 435000



Scan® 300 Automatic Colony Counter

Counts colonies on a Petri plate in less than half a second and gives you quick, accurate, complete and traceable reading of the results.
Each 436300

The Wizard CompactDry™ Reader

See page 13 for more details
Each

CDR2



DILUENTS



Buffered Peptone Water

For increasing the recovery of injured *Salmonella* spp.

16x125mm tube, 10ml fill, 20/pk **K195**

Dilu-Lok™, Gamma Irradiated, 90ml fill, 50/pk **D080**

500ml polycarbonate bottle, 400ml fill, 10/pk **U143**

Butterfield's Phosphate Buffer

For the preparation of dilutions for plate count and other laboratory tests.

16x125mm Tube, 9.9ml fill, 20/pk **K208**



16x125mm Tube, 10ml fill, 20/pk **K109**

Dilu-Lok™, 90ml fill, 50/pk **D590**

Dilu-Lok™, 99ml fill, 50/pk **D599**

500ml polycarbonate bottle, 500ml fill, 10/pk **U190**



Deionized Sterile Water

For general laboratory use and for the preparation of dilutions and suspensions.

Dilu-Lok™, 90ml fill, 50/pk **D090**

Dilu-Lok™, 99ml fill, 50/pk **D099**

With Tween® 80, 0.1%, 125ml PC bottle, 100ml fill, 16/pk **U259**

1L polypropylene bottle, 1000ml fill, 10pk **U284**

Help break down your oily or waxy hydrophobic samples with Tween®, a lipophilic surfactant.

Tween® 80

General purpose surfactant. 500ml polypropylene bottle, 500ml fill, each **U180**

DILUGENT SHAKER AND DILUCUP™

NEW

by LabRobot

The Diligent Shaker uses orbital rotation to make sure each dilution is thoroughly vortexed. It is activated by either a hands-free optical sensor or the optional foot pedal. The 42 LED indicators light each cup, letting you easily see what dilution well you are in.

Features:

- Dimensions: 38cm x 29.5cm x 5cm
- 7" touch screen
- Two optical sensors, one at each side
- Can create and store testing templates, assuring standardization of method
- Programming with intuitive software
- 6 rows for 42 cups (7 x 6)
- Removable magnetic tray for 42 cups
- Export data to USB
- Bar code reading (*Diligent and Diligent Pro only*)
- Able to record sample ID and user ID (*Diligent and Diligent Pro only*)
- Full connectivity to LIMS (*Diligent Pro only*)
- Optional Footswitch, Cat. no. 40FS02



Diligent Shaker Light

Store up to 2 templates. Data retrieval is manual only.

40DGT84LT

Diligent Shaker Pro

LIMS connectivity and traceability for data. Record sample ID, technical or user ID. Bar code scanner capability. Store up to 10 templates.

40DGT84P0

Diligent Shaker Standard Version

Record sample ID, technical or user ID. Bar code scanner capability. Store up to 10 templates. Export data to USB.

40DGT84SD

Dilucup™ Elegance

Dilucup™ Elegance saves time and money spent on preparing your own dilution vials!



Custom diluents available in bulk orders

BPW [Buffered Peptone Water]

- pH: 7,0 ± 0,2
 - Volume: 9 ml ± 2 %
 - 7x3 cups, 9ml fill
- 42 cups 40DEBPW6

NaCl [Saline Solution]

- pH: 7,0 ± 0,2
 - Volume: 9ml ± 2
 - 7x3 cups, 9ml fill
- 42 cups 40DENACL6

Microbiologics®



Microbiologics® offers cannabis microbial testing quality control strains to help you ensure accurate results and keep consumers safe. We have all the required cannabis strains your laboratory needs in test-ready formats.



Safe, simple, stable controls

- Compatible with a variety of instruments, kits, and applications
- Independent external controls provide accurate, reliable results
- Convenient test-ready formats save you time and money
- Easy and economical storage, no freezing required
- Certificate of Analysis provides detailed strain information
- Technical Support experts available for guidance

QC Sets and Panels

Bundled sets and panels of microorganism strains for QC of instruments and test kits.

Big 6 STEC QC Set

Set includes 6 KWIK-STIKs

5218P

Cannabis Process Control QC Set

Set includes 6 KWIK-STIKs, 6 different strains

5257P

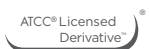
Complete Aspergillus Collection for Cannabis Process Control QC Set

Set includes 8 KWIK-STIKs of the four major Aspergillus strains

5256P

Visit our website for all details and available formats

Lyophilized Strains	Cat. no.
<i>Aspergillus brasiliensis</i> derived from ATCC® 16404™*	0392
<i>Aspergillus fumigatus</i> derived from ATCC® 204305™*	01021
<i>Aspergillus flavus</i> derived from ATCC® 9643™*	01182
<i>Aspergillus niger</i> derived from ATCC® 16888™*	0245
<i>Bacillus spizizenii</i> derived from ATCC® 6633™*	0486
<i>Candida albicans</i> derived from ATCC® 10231™*	0443
<i>Candida albicans</i> derived from ATCC® 60193™*	0425
<i>Pseudomonas fluorescens</i> derived from ATCC® 13525™*	0241
<i>Pseudomonas aeruginosa</i> derived from ATCC® 27853™*	0353
<i>Pseudomonas aeruginosa</i> derived from ATCC® 9027™*	0484
<i>Penicillium chrysogenum</i> derived from ATCC® 10106™*	0178
<i>Penicillium citrinum</i> derived from ATCC® 9849™*	01133
<i>Enterococcus faecalis</i> derived from ATCC® 29212™*	0366
<i>Escherichia coli</i> serotype O157:H7 derived from ATCC® 35150™*	0617
<i>Escherichia coli</i> derived from ATCC® 8739™*	0483
<i>Escherichia coli</i> derived from ATCC® 25922™*	0335
<i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i> derived from ATCC® 13883™*	0351
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhimurium derived from ATCC® 14028™*	0363
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhimurium derived from ATCC® 13311™*	0421
<i>Salmonella enterica</i> subsp. <i>diarizonae</i> derived from ATCC® 12325™*	01054
<i>Salmonella enterica</i> subsp. <i>diarizonae</i> derived from ATCC® 29934™*	01045
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Bispebjerg derived from ATCC® 9842™*	01056
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar <i>Enteritidis</i> derived from ATCC® 13076™*	0345
<i>Staphylococcus aureus</i> derived from ATCC® 6538P™	0827



*Look for the ATCC Licensed Derivative® Emblem for all products derived from ATCC® cultures. The ATCC Licensed Derivative Emblem, the ATCC Licenses Derivative Work Mark, and the ATCC Catalog Marks are trademarks of ATCC. Microbiology, Inc. is licensed to use these trademarks and to sell products derived from ATCC® cultures.

PREPARED PLATES



Dichloran Rose Bengal Chloramphenicol (DRBC) Agar

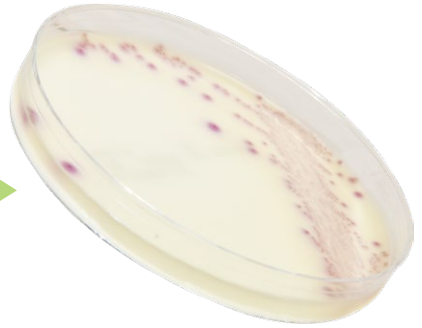
For use in the cultivation of yeast and mold. 15x100mm plate, 26ml fill, 10/pk

W89

HardyCHROM™ O157

A selective and differential medium recommended for the isolation of *E. coli* O157 from food and environmental sources. Not intended for human diagnostic use. O157 provides an initial screen intended to isolate colonies for further testing. 15x100mm plate, 10/pk

G305



HardyCHROM™ Salmonella

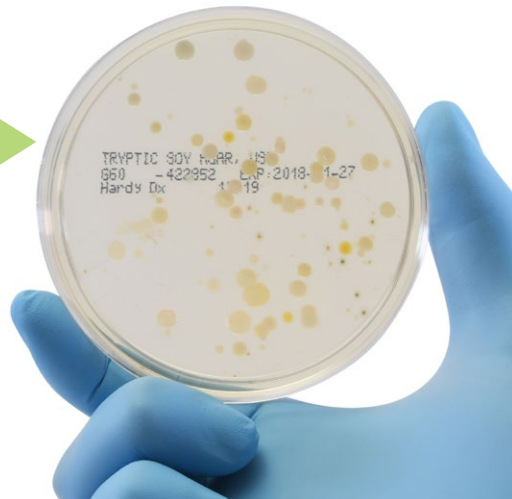
A chromogenic medium recommended for the selective isolation and differentiation of *Salmonella* spp. from other members of the Enterobacteriaceae family based on colony color. Selective agents inhibit the growth of Gram-positive organisms. 15x100mm plate, 10/pk

G309

Tryptic Soy Agar (TSA), USP

For the cultivation of microorganisms. Also known as Soybean-Casein Digest Agar. 15x100mm plate, 10/pk

G60



Since 1980, Hardy Diagnostics has grown to manufacture an extensive selection of prepared media products which are packaged in plates, tubes, bottles, bags, and flasks. Our products go through rigorous and extensive QC testing. Lot specific Certificates of Analysis are available at HardyDiagnostics.com.



Testing for:	Medium	Cat. no.
General Growth	Blood Agar Plate, 5% Sheep Blood in Tryptic Soy Agar	A10
	Tryptic Soy Agar (TSA), USP	G60
E. coli / STEC / Bile Tolerant Gram Negative Bacteria	HardyCHROM™ O157	G305
	EC Broth with MUG (methylumbelliferyl glucuronide)	K64
	HardyCHROM™ ECC (<i>E. coli</i> and Coliforms)	G303
	SHIBAM Medium	A146
	Stx (Shiga-Toxin) Induction Broth	K274
	Violet Red Bile Agar	G78
	EMB Levine Agar (Eosin Methylene Blue)	G25
	MacConkey Broth (Dehydrated Format)	C6141
MacConkey Agar (Dehydrated Format)	C6131	
	EE Broth Mossel, USP	U391/U291
Listeria	HardyCHROM™ Listeria	G317
Salmonella	HardyCHROM™ Salmonella	G309
	Rappaport-Vassiliadis Broth, USP	K246
	Rappaport-Vassiliadis Salmonella Enrichment Broth (Dehydrated Format)	C8781
	Xylose Lysine Deoxycholate (XLD) Agar, USP	G65
<i>Staphylococcus aureus</i>	HardyCHROM™ Staph aureus	G311
	Mannitol Salt Agar (MSA) (Dehydrated Format)	C6231
Yeast, Mold, and Fungi	Dichloran Rose Bengal Chloramphenicol (DRBC) Agar	W89
	Malt Extract Agar	W28
	Potato Dextrose Agar, USP	W60
	Potato Dextrose Agar with Chloramphenicol	W94BX
	Sabdex (Sabouraud Dextrose) Agar with Chloramphenicol	W72
	Sabdex (Sabouraud Dextrose) Agar	W70
	Sabdex (Sabouraud Dextrose) Agar (Dehydrated Format)	C6811

CompactDry™

Best Seller!

The CompactDry™ plate line presents a variety of organism-specific or total count tests, packaged nicely in a sophisticated and sturdy cassette.

Self-Diffusing Media

Stackable

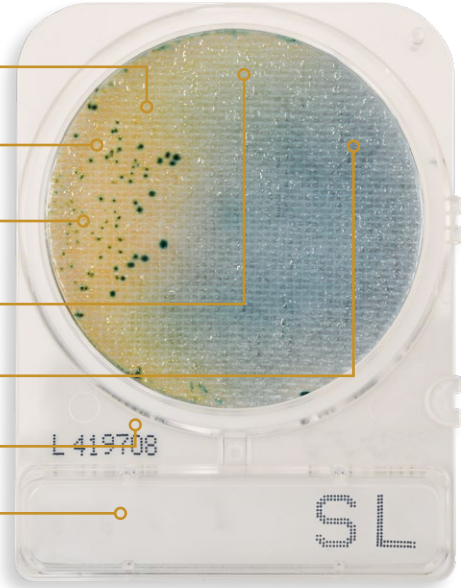
Removable Lid

Colonies easy to pick and subculture

Room Temp Storage and Long Shelf Life

Easy to Pick Up

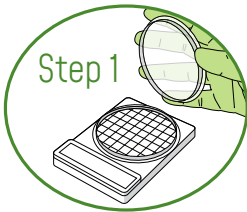
Write-on Area



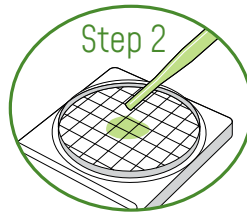
CompactDry™ SL Salmonella

For the presumptive identification of *Salmonella* spp. Growing colonies will appear green or blue-green and may have black centers. 240/pk 54085

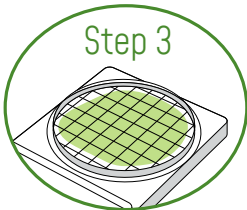
Procedure:



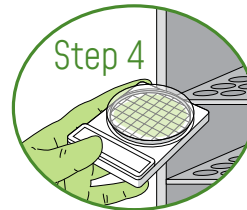
Remove protective cap from CompactDry™ plate.



Drop 1ml* of specimen (dilute if necessary) in the middle of dry sheet.

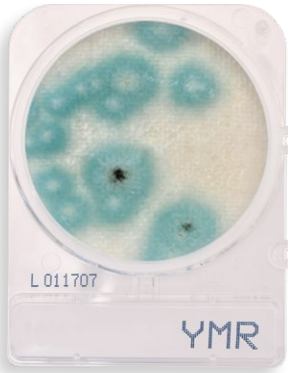


Specimen diffuses automatically into the plate, transforming the dry medium to gel.



Recap and incubate for prescribed time, then count the number of colonies.

*Please refer to your instructions for use for complete inoculation procedures.



CompactDry™ YMR Yeast and Mold

For the isolation and enumeration of yeast and mold. Yeast colonies will appear blue, and molds will form cottony colonies with characteristic colors. Incubation time: 48-72 hrs. 240/pk **54084**

CompactDry™ YM

Yeast and Mold

Incubation time: 3-5 days. 240/pk **54083**



CompactDry™ EC *E. coli* and Coliforms

For the isolation and enumeration of coliforms and *E. coli*. Coliform colonies will appear pink-purple, and *E. coli* colonies appear blue. 240/pk **54082**



CompactDry™ ETB *Enterobacteriaceae*

For the isolation and enumeration of *Enterobacteriaceae* that will appear red in color. Genera of *Enterobacteriaceae* consists of: *Citrobacter*, *Enterobacter*, *Escherichia*, *Klebsiella*, *Morganella*, *Proteus*, *Salmonella*, *Serratia*, *Shigella*, *Yersinia* and more. 100/pk **ETB100**



CompactDry™ TC Total Count

For total aerobic viable bacterial count. Growing colonies will appear red. 240/pk **54081**



CompactDry™ XSA *Staphylococcus aureus*

For the selective growth, enumeration, and differentiation of *Staphylococcus aureus*. Growing colonies will appear light blue to blue. 240/pk **54086**



CompactDry™ LS *Listeria*

For the selective growth, presumptive identification, and enumeration of *Listeria* spp. Growing colonies will appear blue. 100/pk **LS100**

AUTOMATED COLONY COUNTER

The Wizard[™] CompactDry[™] Reader

The **Wizard CompactDry[™] Reader**, a small instrument that will make a big impact on reducing the time spent counting colonies by hand.



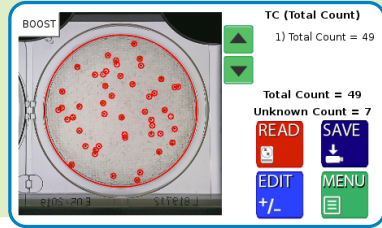
Cat no. CDR2

Easy-to-use: Flip the switch, select your configuration, insert your CompactDry[™] plate(s), select read, and save your results! See how fast that was?

Designed exclusively for CompactDry[™]

CONSISTENCY WHERE IT COUNTS

The Wizard™ brings precise colony counts to each and every set of plates, eliminating the risk of human error and inconsistency.



YOUR COLONY COUNT IN SECONDS

Save technician hours on this tedious task to maximize your throughput possibilities. Does both colony counts and chromogenic reads.

SIMPLE IMPLEMENTATION

Easy-to-understand instructions make for simple Standard Operating Procedures, allowing you to easily train your team and begin utilizing automation for your colony counts.

COMPLIANCE MADE EASY

Make data compliance easy in any lab with several ways to save your test results. Transfer to LIMS software, save directly to USB, or print your data.

INCUBATION

This digital incubator from Boekel Scientific is perfect for incubating cultures and test kits. A great economic choice for laboratories with limited space.



Cat no. 138000

Features and Benefits

- Dimensions: 11.62" (W) x 15.5" (H) x 15.5" (D)
- Weighs: 24 lbs.
- Temperature range: Ambient +10°C to 90°C
- LCD temperature display
- Accommodates a maximum of four shelves
- Metal door with magnetic door latch Ideal under a low hanging cabinet
- Two removable zinc plated steel shelves



Be sure to gain an understanding of the differences between incubating yeasts and molds versus bacteria. Not all organisms will thrive in the same environments.

For more information on incubation times and temperatures, please reference your instructions for use, or reach out to our technical service team at

800-266-2222 x5598.



Incubation time table for CompactDry™ plates

CompactDry™ Product	Incubation Temperature	Incubation Time
Total Count	35-37 °C	48 hrs.
<i>E coli</i> & Coliforms	35-37 °C	24 hrs.
Yeast and Mold	25-30 °C	3-7 days
Yeast and Mold Rapid	25-30 °C	48-72 hrs.
<i>Staphylococcus aureus</i>	35-37 °C	24 hrs.
<i>Enterobacteriaceae</i>	35-37 °C	22-26 hrs.
<i>Listeria</i>	35-37 °C	24-28 hrs.
<i>Salmonella</i>	41-43 °C	20-24 hrs.

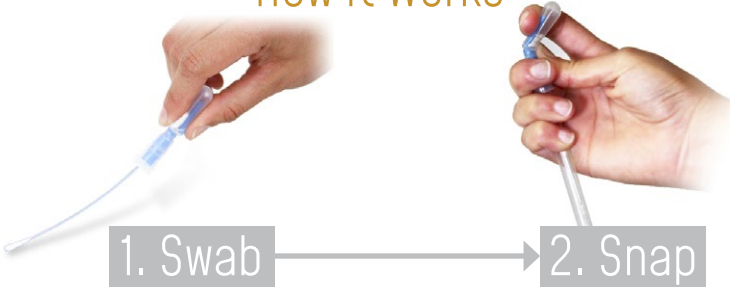
SURFACE



Why perform surface sampling?

Whether you come from years of GMP and HACCP experience or are just learning the basics, it is crucial that companies in the cannabis industry gain an understanding of their microbial environments. This intuitive and straightforward surface sampling process allows you to monitor your environment, keep your customers safe, and greatly reduce risk of contamination. Simple swab tests will give you a read out on the cleanliness of your environment in seconds. Don't get caught empty handed, start understanding your critical control points today!

How it Works



3. Measure

4. Report



ENVIRONMENTAL MONITORING

AIR



Why perform air sampling?

Stay ahead of mold in your cultivation and processing environments with active impact air sampling. TRIO.BAS™ offers the best solution on the market for monitoring your air quality and brings GMP/USP standards to your facility. See trends and changes in your environment at a moment's notice by bringing air quality testing in house.



1. Insert plate



2. Select Pre-set

3. Begin sampling

4. Analyze & record

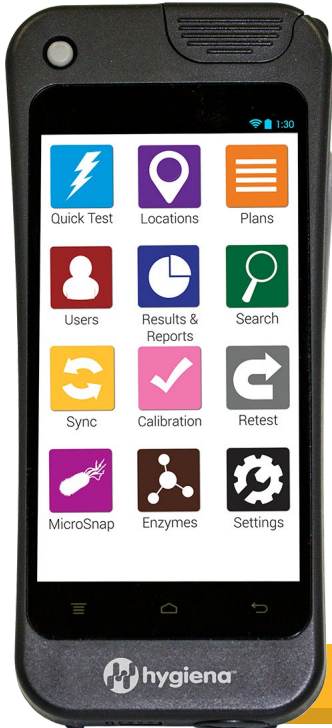


See page 21

SURFACE SAMPLING



EnSURE™ Touch



Innovation at Your Fingertips

EnSURE™ Touch is an advanced monitoring system that collects, analyzes and reports data from a variety of long trusted quality tests, providing rapid and accurate sanitation verification data. Featuring a 5-inch touch screen, wireless sync technology, and cloud-based software. The EnSURE™ Touch is designed to adapt to your workplace, providing the data you need for complex multi-location supply chain monitoring, audit and risk management, and recall prevention.

EnSURE Touch features:

- Results in 10 seconds
- Test and compare the effectiveness of sanitation products and procedures
- Run multiple tests on one system in just a few taps
- Minimal size, maximum durability
- Cloud Connected & Wireless Enabled

Each _____ ETOUCH

Results in seconds!

Ask about our FREE SureTrend™ Data Analysis software

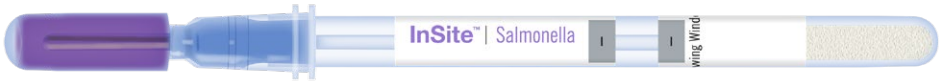


Best Seller!



Product	Specifications	Cat. no.
UltraSnap™	ATP surface test, 100/bx	US2020
AquaSnap™ Total	ATP water test, 100/bx	AQ100X
Micro-Snap Test, <i>E. coli</i>	Indicator organism test, 100/bx	MS2ECOLI
MicroSnap™ Coliform	Indicator organism test, 100/bx	MS2COLIFORM
MicroSnap™ Total	Indicator organism test, 100/bx	MS2TOTAL

ENVIRONMENTAL PATHOGEN DETECTION



Non-ATP color change indicator test for environmental surfaces

Swab your surface, release the media, and look for a color change. Takes 24-48 hours.

Product	Specifications	Cat. no.
InSite™ Salmonella	Environmental surface swab, positives turn yellow, 50/bx	IS050



This ready-to-use swab and tube is pre-filled with your choice of three sampling diluents.

EnviroTrans™ Neutralizing Buffer
2ml, 20/box **SRK20**
5ml, 20/box **SRK15**

EnviroTrans™ Neutralizing Saline
5ml, 20/box **SRK55**

For neutralization of bactericidal and bacteriostatic effects of chlorine and quaternary ammonium compounds to facilitate the survival of organisms from the sampling surface. (**SRK20**, **SRK15**, **SRK55**)

EnviroTrans™ Lethen Broth
5ml, 20/box **SRK25**

Recommended by AOAC International for evaluating the bactericidal activity of quaternary ammonium compounds and supports growth of a variety of organisms. (**SRK25**)

Collect and transport your environmental samples from the surface to the lab efficiently and easily with Envirotrans™. Take a 1ml sample and inoculate your CompactDry™ plate!



Works great with CompactDry™!



DUO

The TRIO.BAS™ family of air samplers has a 35 year history and comes from the engineers of the first portable air sampler. The instruments are lightweight, ergonomic, have data integrity with Bluetooth capability and use standard media. Choose a format to best fit your environmental monitoring needs.

Stop mold sporulation where it starts with an impact air sampling protocol for your facility. Sample several areas quickly and efficiently, and grow your samples on our quality prepared media for the best results of your air quality.

- Two aspirating heads with easy manipulation bayonet closure
- Save sampling time by doubling the aspirated volume of air
- Manual or automatic operations
- Ergonomic and balanced design is lighter than industry counterparts
- Programmable for simultaneous or interval aspirating times
- No plugs or external connections
- Connection free induction battery charger
- Two aspirating heads for sampling on separate plates to determine bacterial and yeast/mold counts

Cat no. **BAS226k**



Certifications: ISO14698, USP 797, USP 116,
EU GPL-GMP, ISO 17025.

TRIO.BAS™ DUO Kit Contains:

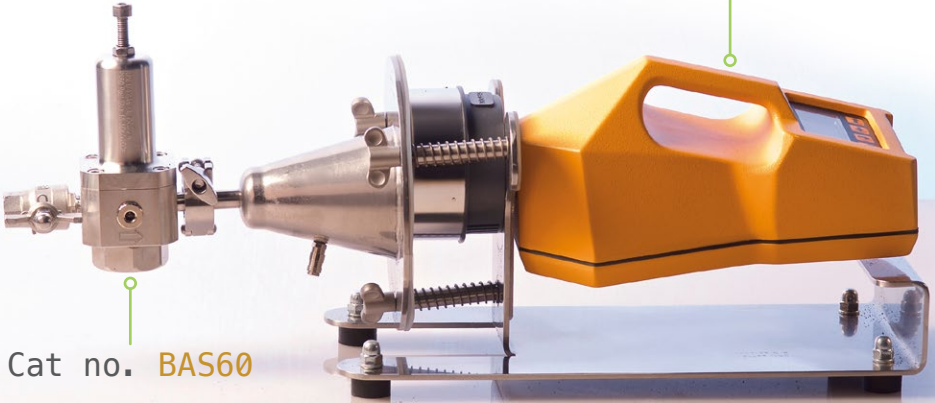
Air sampler instrument, induction battery charger and cable, aspirating heads, cover heads, ROBUSTUS carrying case, and calibration certificates.

Testing gas lines for microbial growth? Use the TRIO GAS attachment!

TRIO GAS Microbiological High Pressure Gas Sampler

Designed to test the presence of microorganisms in compressed gas samples supplied from tanks and pipes under pressure. Compatible with MONO or MINI TRIO.BAS unit

Cat no. **BAS201**



Cat no. **BAS60**

PREPARED MEDIA FOR AIR SAMPLING

Tryptic Soy Agar (TSA) With Lecithin and Tween® 80

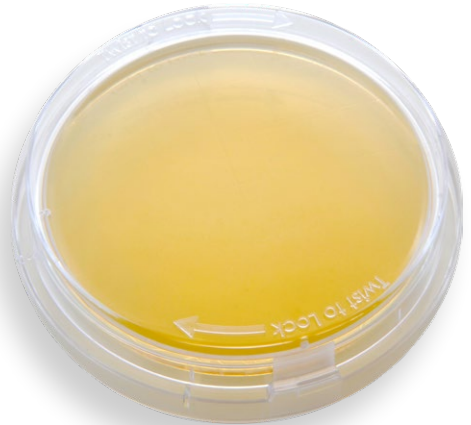
For the cultivation of microorganisms from environmental surfaces.
15x60mm contact plate,
10/pk

P34

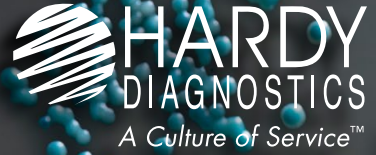
Sabdex (Sabouraud Dextrose) Agar

For the selective isolation of fungi and yeasts from clinical and nonclinical specimens.
15x60mm contact plate,
10/pk

P36



Hardy Diagnostics is a 100% Employee owned company, and an ISO 13485 certified manufacturing facility. All of our products are held to the highest quality standard and are rigorously tested for quality assurance. With a robust team of Customer and Technical Service Representatives, you won't find another company more attentive to your needs. As a leader in Culture Media for 35+ years, Hardy crosses industries with our attention to premium product, and an unmatched Culture of Service.



FM 572526

Hardy Diagnostics has a Quality Management System that is certified to ISO 13485 and is a FDA licensed medical device manufacturer.

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Albany, New York
Raleigh, North Carolina