

# CytoBrite® Slide Oven

## USER MANUAL

Cat. #2019-70-1/2 (115/230V)



FOR RESEARCH USE ONLY

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## Serial Number

The following serial number identifies the specific oven you have purchased and must be referenced when requesting service. A copy is affixed to the oven.



## Warranty

SciGene warrants that the heating unit described in this manual shall be free of defects in materials and workmanship for a period of 12 months from date of delivery. This warranty does not cover removable slide trays or accessories. In the event of a defect during the warranty period, SciGene's limit of liability will be to provide replacement parts at no charge or, at its sole discretion, replace the product. The foregoing warranty is void in the event the unit was abused or modified or used in a manner inconsistent with its intended purpose. SciGene makes no other warranty, expressed or implied including warranties of merchantability and fitness for a particular purpose. In no event shall SciGene be liable for any direct, indirect, special, incidental or consequential damages or for any damages resulting from loss arising out of or in connection with the sale, use or performance of the product.

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## I. SAFETY NOTICES

### A. Intended Use

The **CytoBrite® Slide Oven** incubates samples for FISH/ISH applications using a radiant convection system within a stainless steel chamber to provide uniform heating. The oven eliminates the need for humidification with the use of **CytoBond® Removable Coverslip Sealant**. The instrument should only be used according to the instructions provided in this manual. If the equipment is used in a manner not specified by the manufacturer (SciGene), protection provided by the equipment may be impaired.

*L'incubateur CytoBrite est destiné pour le chauffage d'échantillons biologiques. L'oven ne devrait servir que selon les instructions fournies dans ce manuel de l'utilisateur et d'autres documents techniques de SciGene. Si l'équipement est utilisé de manière non spécifiée par le fabricant, la protection assurée par l'équipement peut être compromise.*

### B. Oven Safety

Before operating the oven, read the information in this section concerning hazards and potential hazards. Ensure that anyone involved with the oven's operation is instructed in both general safety practices for laboratories and specific safety practices for the oven.

*Avant le fonctionnement de l'oven, lisez les renseignements dans cette section concernant les risques et les dangers potentiels. S'assurer que toute personne impliquée avec le fonctionnement de l'oven est instruit dans les pratiques générales de sécurité pour les laboratoires et les pratiques de sécurité spécifiques pour l'oven. Avant le fonctionnement de l'oven, lisez les renseignements dans cette section concernant les risques et les dangers potentiels. S'assurer que toute personne impliquée avec le fonctionnement de l'oven est instruit dans les pratiques générales de sécurité pour les laboratoires et les pratiques de sécurité spécifiques pour l'oven.*

### C. Symbols and Conventions

The following chart is an illustrated glossary of the electrical symbols that are used on the **CytoBrite Slide Oven**. Whenever such symbols appear on ovens, please observe appropriate safety measures.

*Le tableau suivant est un glossaire illustré des symboles électriques qui sont utilisées sur le système. Chaque fois que ces symboles apparaissent sur les ovens, veuillez observer les mesures de sécurité appropriées.*

#### 1. Electrical Symbols



This symbol indicates that this is a protected ground terminal that must be connected to earth ground before any other electrical connections are made to the oven.

*Ce symbole indique qu'il s'agit d'un terminal de terrain protégé qui doit être connecté à la terre avant que toutes les autres connexions électriques sont apportées à l'oven.*



CAUTION: This symbol warns of an electrical hazard and alerts you to consult this Operator's Manual for further information and to proceed with caution.

*ATTENTION: Ce symbole vous avertit à consulter ce guide de l'utilisateur pour plus d'informations et de procéder avec prudence.*



This symbol indicates the OFF position of the main POWER switch.  
*Ce symbole indique la position OFF de l'interrupteur principal.*



This symbol indicates the ON position of the main POWER switch.  
*Ce symbole indique la position ON de l'interrupteur principal.*

## 2. Non-Electrical Symbols



CAUTION: This symbol illustrates a heat hazard. Proceed with caution when working around these areas to avoid being burned by hot components.

*ATTENTION: Ce symbole illustre un danger pour la chaleur. Faire preuve de prudence lorsque vous travaillez autour de ces zones pour éviter d'être brûlé par les composants du chauds.*



CAUTION: This symbol alerts you to consult this Operator's Manual for further information and to proceed with caution.

*ATTENTION: Ce symbole vous avertit à consulter ce guide de l'utilisateur pour plus d'informations et de procéder avec prudence.*

## D. Warnings

Failure to comply with the following warnings that are affixed to the product can lead to possible personal injury or death.

*Défaut de respecter les avertissements suivants qui sont apposées sur le produit peut conduire à possibles lésions corporelles ou la mort.*



This symbol on the rear of the oven indicates the presence of the fuse box.  
**Warning: For Continued Protection Against Fire, Replace Only with Same Type Rating of Fuse.** Always disconnect the power cord before attempting to replace the fuse.

*Ce symbole sur l'arrière de l'oven indique la présence de la boîte de fusibles.*  
**Avertissement: Pour le maintien de la Protection contre l'incendie, remplacer uniquement avec la même cote de Type de fusible.** Toujours débrancher le cordon d'alimentation avant d'essayer de remplacer le fusible.

## E. Cautions

Failure to comply with the following cautionary statement affixed to the product may lead to possible personal injury.

*Omission de se conformer à la mise en garde suivante apposée sur le produit peut entraîner des blessures possibles.*



This symbol located on the oven drawers indicates the potential presence of a Hot Surface. Use care when working in this area to avoid being burned.

*Ce symbole situé en face des blocs de chaleur indique la présence éventuelle d'une surface chaude. Faire preuve de diligence lorsqu'il travaille dans ce domaine pour éviter d'être brûlé.*

## F. Electromagnetic Compatibility (EMC)

The **CytoBrite Slide Oven** is a Class A digital device under FCC Title 47 Part 15B and designated as Class A electrical equipment for measurement, control, and laboratory use (EN61326).

*Note regarding Canadian EMC compliance: Le présent appareil numérique n'émet pas de bruits radioélectrique dépassant les limites applicables aux appareils numériques de class A prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.*

## G. FCC Warnings and Notes

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. The oven qualifies as an “exempted device” under 47 CFR 15.103(c), in regard to the cited FCC regulations in effect at the time of manufacture. Shielded cables must be used with this unit to ensure compliance with the Class A FCC limits.

## H. Compliance

### 1. Electromagnetic Compatibility (CE)



All instruments shipped to the European Union (EU; formerly known as the European Community) have the “CE” label on the back of the instrument, signifying that these instruments comply with the Electromagnetic Compatibility and Low Voltage Directives.

### 2. Restriction of Hazardous Substances (RoHS)



The RoHS directive was adopted in February 2003 by the European Union. It restricts (with exceptions) the use of six hazardous materials (including lead and mercury) in the manufacture of various types of electronic equipment. All SciGene instruments carrying the CE mark are also RoHS compliant.

### 3. Electrical and Electronic Equipment Waste (WEEE)



WEEE is a European Community directive that became European Law in February 2003. The crossed out wheeled bin symbol on a product or its packaging indicates that it must NOT be disposed of with standard waste at the end of its lifetime. Instead, it is your responsibility to return it to a designated collection point for electronic equipment recycling. Contact your local SciGene distributor for information on drop off locations.

## II. UNPACKING AND SET UP

### A. Unpacking, Lifting and Moving the Oven

The **CytoBrite Slide Oven** is shipped with ten empty slide trays in a single carton. The oven weighs approximately 100 lbs (45 kg) so extreme caution is needed when lifting the unit to protect yourself and others from personal injury. Two people are required to lift the unit, one on each side, keeping it balanced and sharing the load. Remove any packing material from around the top and sides of the oven, then carefully lift out, place on the bench and inspect for damage.

*If the oven is damaged upon arrival, please retain all shipping materials and contact SciGene or your local distributor for assistance.*

### B. Items Provided

The following items are included in the shipping carton with the CytoBrite Slide Oven:

- 10x Slide Trays
- Power Cord
- User Manual

### C. Coverslip Sealant Requirements

Ready-to-use **CytoBond Removable Coverslip Sealant** (SciGene cat. #2020-00-1) is required for use of the **CytoBrite Slide Oven**. **CytoBond Sealant** is used to temporarily seal coverslips to slides, providing an evaporative seal over prolonged incubations and high temperatures without humidification.

### D. Environmental Requirements

Ensure that the area where the **CytoBrite Slide Oven** is installed meets the following conditions, for reasons of safety and performance:

Ambient temperature	+15 to +32°C (58 to 90°F)
Relative humidity	20 to 80% RH non-condensing
Air flow clearance	6 inches (15 cm) minimum above unit

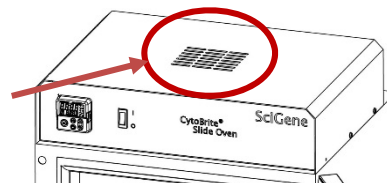
### E. Installation and Location

Place the oven on a stable, level surface within a few feet of the power source. Allow 6 inches of clearance at top for adequate air flow. **DO NOT** place under a shelf where solutions are stored. Any liquid entering the electrical compartment through the vent holes on the top of the unit will cause damage.

Ensure there is adequate clearance on all sides of the oven, which may be warm to the touch, including enough space to open the door completely, allowing for free movement of inner slide drawers. Using only the power cord provided, plug it into the back of the oven and then to a properly grounded outlet. Turn on power using the ON/OFF switch on the front control panel.



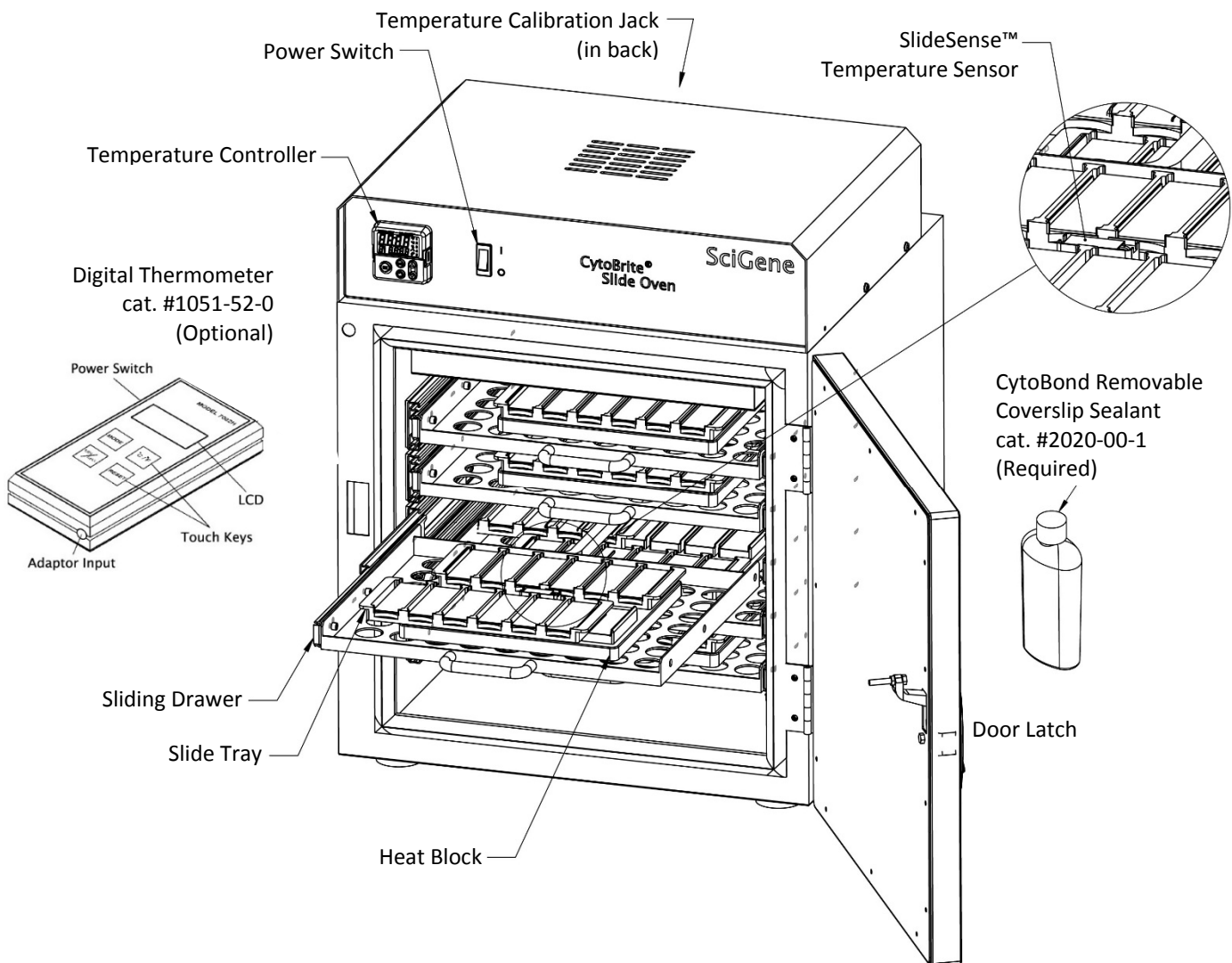
**To avoid a safety hazard or damage to the instrument, do not allow liquids to enter the vent holes on top of the oven.**



## III. USING YOUR CYTOBRITE SLIDE OVEN

### A. Components, Controls and Accessories

Name	Function
<b>Power Switch</b>	Turns ON/OFF power to the oven
<b>Temperature Controller</b>	Used to set, control and observe block temperatures
<b>SlideSense™ Temperature Sensor</b>	Senses true temperature of glass slides
<b>Door Latch</b>	Secures the door with button release to open
<b>Sliding Drawers (5)</b>	Allows easy loading/removal of slide trays
<b>Heat Blocks (5)</b>	Mounted on drawers; heats slides held in trays
<b>Slide Trays (10)</b>	Holds slides for transfer and incubation
<b>CytoBond® Removable Coverslip Sealant</b>	Seals coverslips to slides without humidification.
<b>Digital Thermometer (optional)</b>	Used to verify and calibrate block temperatures
<b>Temperature Calibration Jack</b>	Connection for optional digital thermometer





## B. Using CytoBond Removable Coverslip Sealant

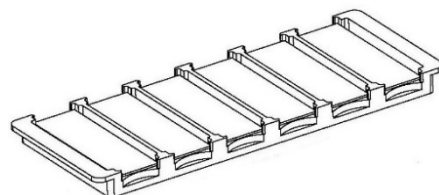
The **CytoBrite Slide Oven** eliminates the need for humidification with the use of **CytoBond Removable Coverslip Sealant** (SciGene cat. #2020-00-1). CytoBond is a gel-like adhesive applied to coverslips that temporarily seals them to slides.

Follow the steps below to prepare slides with **CytoBond Sealant**:

1. Apply a continuous bead around coverslips.
2. Wait 5 to 30 minutes.
3. Denature/incubate using your times/temperatures.
4. After incubation, remove in one piece with forceps.

## C. Handling Slide Trays

Ten slide trays are included with the **CytoBrite Slide Oven**. Each removable tray holds 1 to 6 slides for assay setup and hybridization. To load a slide tray on one of the heat blocks mounted on the sliding drawers, hold the end tabs of the tray only (avoiding direct contact with the slides) and place the tray into the slots of the desired heat block such that the slides remain flat and level, in full contact of the block. Failure to properly insert the slide tray or slides may adversely affect performance.



The oven holds ten 6-slide trays.

## D. Using the Temperature Controller

The CytoBrite Oven is equipped with a Watlow EZ-Zone temperature controller (shown at right). It is calibrated at the factory to provide accurate chamber temperatures from ambient +5 to 90°C. SciGene recommends checking calibration monthly.



The controller has two LED displays: the upper display shows ACTUAL temperature inside the chamber and the lower display shows the SET or programmed temperature. To program an oven temperature, simply push the up or down arrows until the desired temperature is shown in the lower display. The oven will adjust the heat of the chamber until the SET temperature is attained.

Two buttons are used during normal operation:

- The up arrow (▲) is used to program a higher temperature and for calibration.
- The down arrow (▼) is used to program a lower temperature and for calibration.

Three buttons are used for calibration or factory settings only:

- The infinity button (∞) is used to adjust power settings for the chamber heaters or for exiting calibration mode. It is programmed at the factory to provide 100% power and should NOT be used during normal operation.
- The advance button (circle icon) at lower left is used to scroll through parameters during calibration. It is NOT used during normal operation.
- The EZ button is used for advanced functions NOT applicable to this oven model. It should NOT be used during normal operation.

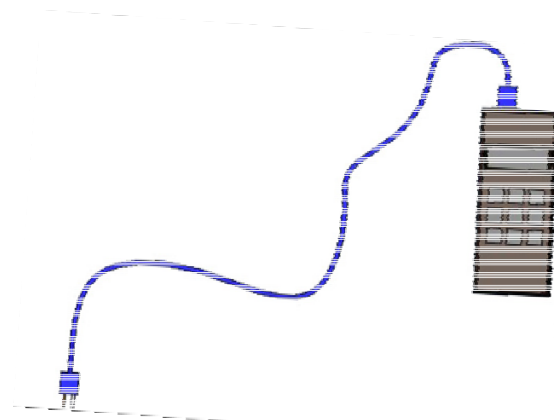
### E. Calibrating the Temperature Controller

To ensure accurate ( $\pm 0.5^{\circ}\text{C}$ ) oven temperatures, the performance of the EZ-Zone controller should be periodically checked by comparing the temperature displayed on the controller to an accurate, NIST-certified (National Institute of Standards and Technology) thermal measurement device. Calibration need only be performed at a single temperature (e.g.  $37^{\circ}\text{C}$ ) to achieve accurate oven operating temperatures from ambient +5 to  $90^{\circ}\text{C}$ . SciGene recommends the calibration method below to achieve accurate oven temperatures. No other methods are recommended.

Follow the steps below to calibrate the EZ-Zone controller:

1. Turn on the oven, set to  $37^{\circ}\text{C}$  and allow temperature to stabilize (6 hours).
2. Connect a NIST-certified T-type digital thermometer (SciGene Cat. #1051-52-0) to the blue jack (secondary RTD) at the top back of the oven.
3. Does the digital thermometer reading match the controller to  $\pm 0.5^{\circ}\text{C}$ ?
  - a. Yes — STOP, the oven is correctly calibrated.
  - b. No — Continue with the steps below.
4. Calculate the temperature difference from the controller to the thermometer. For example, if the controller displays  $37.0^{\circ}\text{C}$  and the thermometer displays  $38.5^{\circ}\text{C}$ , the difference (offset) is  $1.5^{\circ}\text{C}$ .
5. On the controller, press the up and down arrows simultaneously for 3 seconds. The upper display shows "A1" and the lower display reads "open".
6. Press the advance button (circle icon) 3 times until the lower display shows "i.CA".
7. The upper display shows the offset value when the unit was last calibrated. Use the up/down arrows to adjust this value to the new offset calculated in Step 4. For example, if the controller reads  $1.5^{\circ}\text{C}$  lower than the thermometer, adjust the offset by *adding* 1.5 to the value shown.
8. Press the infinity key ( $\infty$ ) twice to return to the operation display.

The oven is now calibrated to provide accurate temperatures from ambient +5 to  $90^{\circ}\text{C}$ .



A NIST-certified digital thermometer (SciGene cat. #1051-52-0) is used to verify and set temperature calibration on the EZ Zone controller.

## IV. MAINTAINING YOUR CYTOBRITE SLIDE OVEN

### A. Powering Off

Turn the power switch to the OFF position and unplug the power cord before performing any cleaning or service procedure.

### B. Cleaning the Oven

Clean outer metal surfaces and drawers using a soft cloth and mild, detergent-based cleaner. Avoid abrasive cleaners that can scratch surfaces. Do **NOT** use caustic or strongly alkaline solutions (e.g., strong soaps, ammonia, or bleach). Under no circumstances should solutions be allowed to enter through the ventilation slots on the top of the oven.

If running radioactive or biohazardous reactions, consult your institution's radiation safety officer or biosafety office for assistance.



**Turn power switch to the OFF position and unplug the power cord before performing any cleaning procedure!**

*Tournez le commutateur d'alimentation sur la position OFF et débranchez le cordon d'alimentation avant d'effectuer toute opération de nettoyage!*



**Remove liquid or condensation (wipe dry) while oven is OFF and at room temperature!**

*Enlever le liquide ou la condensation (essuyer), tandis que l'oven est éteint et à la température ambiante!*

### C. Checking and Replacing Fuses

Two fuses are located in the removable block below the power cord receptacle on the top, back of the oven. Blown fuses will have a broken filament or appear dark. Always replace fuses with the same amperage and voltage as shown on the label below the fuse block.

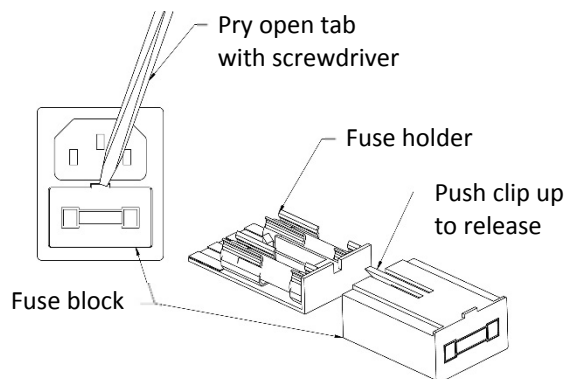


**Turn power switch to the OFF position and unplug the power cord before performing any service procedure.**

*Tournez le commutateur d'alimentation sur la position OFF et débranchez le cordon d'alimentation avant d'effectuer toute opération de service!*

To remove fuses:

1. Insert a small, flat blade screwdriver into the tab recess just below the plug receptacle.
2. Push down to release the fuse block.
3. Slide fuse holder out from the fuse block while holding the retaining tab out of the way.
4. Gently pry out the fuses.



## TROUBLESHOOTING

Symptom	Cause	Solution
Oven does not turn on.	Blown fuse(s)	Replace fuse(s) on back of unit, beneath power cord receptacle.
Controller is not responding when buttons are pressed.	Controller is faulty or is not properly programmed	Cycle oven on and off. Contact SciGene or your local distributor to replace the controller if necessary.

## V. SPECIFICATIONS

Electrical	
Cat. #2019-70-1	115V AC; 50/60 Hz; 6A
Cat. #2019-70-2	230V AC; 50/60 Hz; 3A
Dimensions and Weight	
Outside H x W x D	22 x 18 x 17 inches (55 x 45 x 42 cm)
Weight	100 lbs (45 kg)
Performance and Controls	
Capacity	60x standard microscope slides (1x3 inch)
Temperature Range	Ambient +5°C to 90°C
Temperature Regulation	± 0.5°C
Slide-to-slide Temp Variation	< 0.5°C
Preheat Time	6 hours
Open Door Temperature Drop	0.2°C @ 37°C after 30 seconds
Digital Thermometer Output	T-type Thermocouple

## VI. RELATED INSTRUMENTS, REAGENTS AND ACCESSORIES

Cat. #	Description	UoM
2019-00-1	CytoBrite Slide Incubation System, 115V/230V. Includes two 6-slide racks.	EA
2019-20-1	CytoBrite Duo Slide Incubation System, 115/230V. Includes two 6-slide racks.	EA
2019-10-0	CytoBrite Slide tray. Holds 1 to 6 slides.	EA
2010-00-1	FISH Wash Buffer 1 (0.4xSSC/0.3% IGEPAL, pH 7).	EA
2010-00-2	FISH Wash Buffer 2 (2xSSC/0.1% IGEPAL, pH 7).	EA
2020-00-1	CytoBond Removable Coverslip Sealant, 100 ml.	EA
2022-00-2	CytoZyme Stabilized Pepsin, 50X Concentrate, 20 ml.	EA
2022-00-3	CytoZyme Stabilized Pepsin, 50X Concentrate, 100 ml.	EA
2022-10-2	CytoZyme Reaction Buffer, 1L.	EA
2022-10-3	CytoZyme Reaction Buffer, 4L.	EA
2030-00-1	Sodium Thiocyanate Pretreatment Reagent, 1L	EA
2030-00-2	Sodium Thiocyanate Pretreatment Reagent, 4L	EA
1051-52-0	Digital thermometer, T-type. Includes cable and NIST certificate.	EA



## VII. DECLARATION OF CONFORMITY

### CytoBrite® Slide Oven

SciGene  
1287 Reamwood Avenue  
Sunnyvale, CA 94089 USA



Declares that the above referenced product(s) meets the essential requirements of the following European Union Directives by using the relevant standards shown below to indicate compliance.

### EMC Directive 2004/108/EC

#### Standard:

**IEC 61326-1      2005      Electrical equipment for measurement, control and laboratory use**

### LVD Directive 2006/95/EC

#### Standards:

**IEC 61010-1      2010      Electrical Equipment for Measurement, Control and Laboratory use  
3rd Edition Part 1: General requirements**

**IEC 60204-1      2006      Electrical equipment of machines**

### RoHS Directive 2011/65/EC

Terry Gill

\_\_\_\_\_  
Name of Authorized  
Representative

Sunnyvale, California, USA

\_\_\_\_\_  
Place of Issue

Director of Product  
Manufacturing

\_\_\_\_\_  
Title of Authorized  
Representative

January 02, 2015

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Date of Issue

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Signature of Authorized  
Representative