

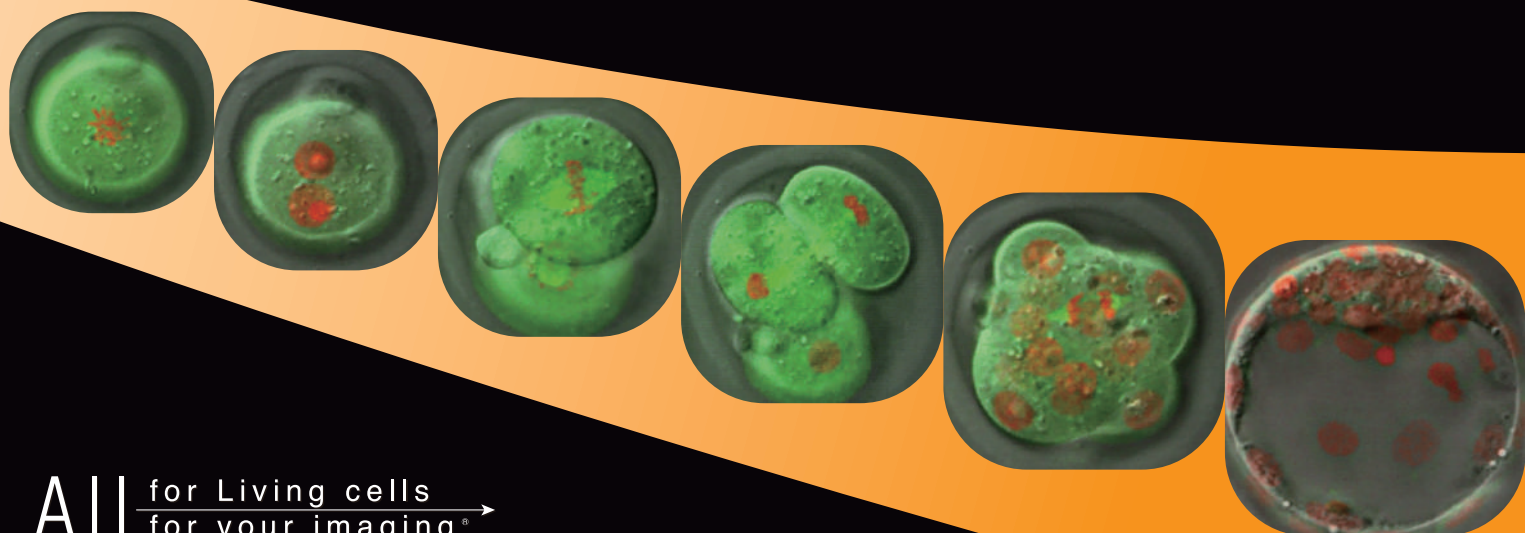
INCUBATE YOUR DREAM...

Stage Top Incubator[®]

STX SERIES

Happiness for Cells, Success for Researchers

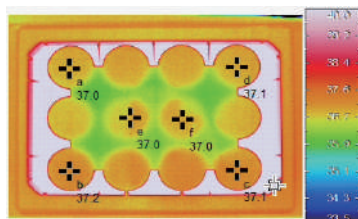
Offering precision temperature, humidity and CO₂ control,
STX series makes real-time Cell Culturing possible on the microscope stage.



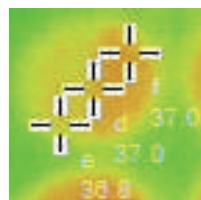
All for Living cells
for your imaging[®]

Accurate and uniform temperature control

Tokai Hit's Top Heater is proven to distribute heat uniformly inside the chamber regardless of vessels.

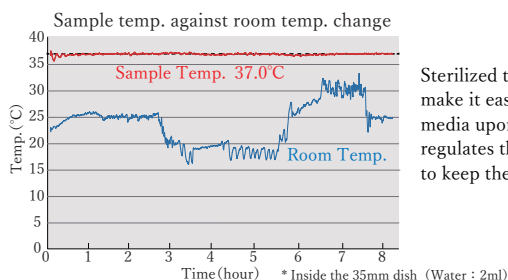


Uniform temperature distribution between wells and within a well.



* In our measurement environment

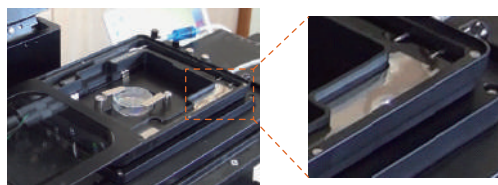
Real-time Sample Feedback Regulation



Sterilized temperature sensor and magnetic lids make it easy to measure the temp. of culture media upon research needs. The controller regulates the heater based on the sensor signal to keep the sample at the target temperature.

Keeps high humidity

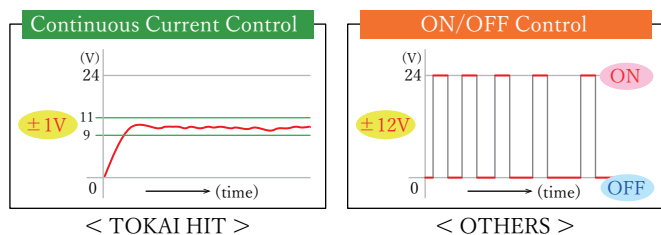
Keep the humidity level inside the Chamber by heating the distilled water in the Bath Unit. The internal humidifier minimizes the change in concentration of media by keeping the humidity inside the Chamber.



Internal Humidifier by Bath Heater

Prevent the focus drift

In addition to PID control, Stage Heater is regulated by Continuous Current Control which minimizes the focus drift generated by thermal expansion and light intensity change compared to the conventional ON/OFF control.



< TOKAI HIT >

< OTHERS >

SET model

The unit comes with all dish attachments and dish fixing lids.

Do not need to order the attachments separately.

- Controller

Model: **STXG**
With built-in gas mixer
or
STXF
With an analog flowmeter

- Chamber

Model: **WSKMX**
(e.g.)

- Dish Attachments and Dish Fixing Lids

For well-plate, 35/60mm dish, slide glass, chamber slide and chambered coverglass

- Feedback Sensor
- Extension wire
- Software STX-APP
- USB cable
- Gas tube

Stable and digital CO₂ regulation

The controller mixes 100% CO₂ gas and the surrounding air automatically. The stable gas concentration inside the chamber is obtained by keep supplying the mixed gas to the chamber. (* STXG controller)



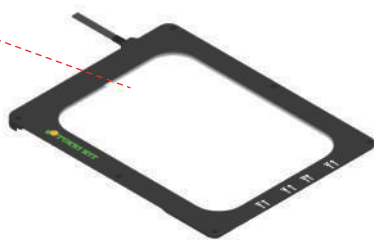
Stage Top Incubator Culture Results

| Attribute | Name | Details | Period |
|---------------|--------------------|--|-------------|
| Cultured Cell | STO | Embryo; fibroblast, mouse | Over 5 days |
| Cultured Cell | PC12 | Pheochromocytoma; adrenal gland, rat (male) | Over 5 days |
| Cultured Cell | Hela | Adenocarcinoma; crvix, human (female, 31 years) | Over 5 days |
| Primary | Human Embryo | Human embryo in vitro; form fertilization to hatching blastocyst over 7 days | Over 7 days |
| Primary | Neurons | Development of rat cerebral cortical neurons | Over 4 days |
| Primary | Neural Stem Cells | Proliferation of neural stem cells of 14-day-old rat embryo | Over 7 days |
| Primary | Neural Stem Cells | Differentiation of rat neural stem cells to neurons and glial cells | Over 7 days |
| Primary | Hippocampal Neuron | E18 rat hippocampal neurons, cultured in CO ₂ incubator for the first day | Over 3 days |
| Primary | Cardiac Myocyte | Neonatal rat heart, fetal mouse, heart beat synchronization | Over 3 days |

System Image

Top Heater

Main heater which heats the specimen from the upper surface. The transparent glass heater prevents condensation and supports clear visibility.



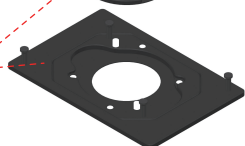
Dish Fixing Lid

The magnetic method increases its user friendliness. Secure the feedback sensor on the lid.



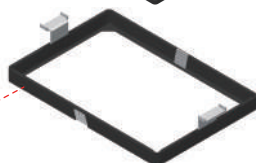
Dish Attachment

Supports 35mm dish, 50/60mm dish, chamber slide, slide glass and chambered coverglass by changing one-touch magnetic holder.



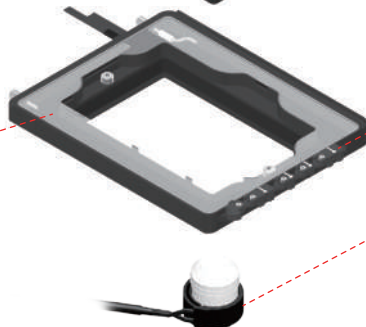
Well-plate Holder

Accommodates marketed 6-96 well-plates directly.



Bath Unit

Holds distilled water as internal humidifier and Bath Heater heats it directly from beneath to generate high-humidity inside the Chamber unit.



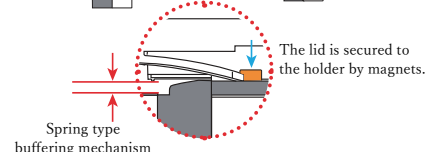
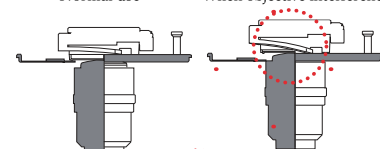
Easy Dish Fixing

Stable and easier "Magnetic" fixing



Even when the objective interferes with the bottom of the dish, a spring type buffering mechanism prevents breakage of the dish/objective.

<Normal use> <When objective interference>



Access Ports

For sensor, media exchange and drug delivery tubes.

Lens Heater

Prevents heat escaping from the sample to the objective. Especially effective under high magnification, oil/water immersion observation. Accommodates up to 40mm diameter objective.

Add-on Options

For long-term cell culture

ThermoBox



Model : **IX83TB-BK**
(Black type / With heater function)

Prevent environmental disturbances during short/long term imaging.

Accurate temperature control regardless of room temperature fluctuation.

* Transparent type / Non-Heater type are also available.

External Humidifier



Model : **TPIDE-HUMID**

Eliminates the need of refilling internal/external water for more than 3-4 days.

Maintain very high humidity inside the Chamber and minimize the media evaporation.

<Components>

Water bottle, Bottle heater, Controller

For Hypoxia experiment

Digital Gas Mixer

Model : **STX-CO202**



Control CO₂ and O₂ (Hypoxia) concentration.

O₂ concentration : 0.1~18%
CO₂ concentration : 5.0~20.0%
Support gas : 100%CO₂, 100%N₂

* Need to be used with STX controller

For Perfusion/Media exchange/Drug delivery

Program Fluidic Control System

Model : **PMD-D35**



Perfusion, Media exchange, Drug delivery can be easily programmed and done without disturbing your sample.

Increase high-repeatability of your experiments by minimizing effects on cell culture environment.

* Enables uniform mixing of the media and drug after the drug delivery.

Continuous Perfusion : 40~100 μ L/min
Media Exchange volume : 0.6~5.0ml
Drug Delivery : 20~100 μ L

For Olympus manual/motorized stage (IX3-SVR, IX3-SSU etc.)



With built-in gas mixer for 100%CO₂ gas cylinder use

Model: **STXG-WSKMX-SET**

With an analog flow meter for premixed gas cylinder use

Model: **STXF-WSKMX-SET**

Applicable dishes:



For MCL Nano-ZL100-OSSU/Nano-ZL400-OSSU



With built-in gas mixer for 100%CO₂ gas cylinder use

Model: **STXG-IXZWX-SET**

With an analog flow meter for premixed gas cylinder use

Model: **STXF-IXZWX-SET**

Applicable dishes:



For Andor Dragonfly, ASI PZ-2000, Ludl 99A602, MCL Nano-Z500



With built-in gas mixer for 100%CO₂ gas cylinder use

Model: **STXG-PLAMX-SET**

With an analog flow meter for premixed gas cylinder use

Model: **STXF-PLAMX-SET**

Applicable dishes:

For Olympus manual/motorized/mechanical stage



With built-in gas mixer for 100%CO₂ gas cylinder use

Model: **STXG-WELSX-SET**

With an analog flow meter for premixed gas cylinder use

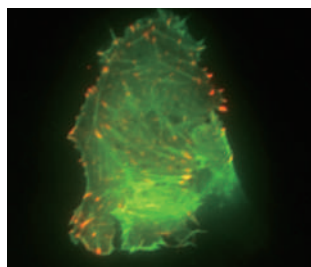
Model: **STXF-WELSX-SET**

* The Chamber dimensions are same as marketed well-plates.

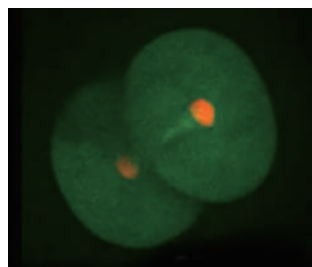
Applicable dishes:



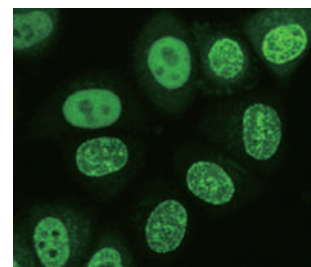
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Courtesy of Dr. Simon Watkins and
Claudette St. Croix
Center for Biologic Imaging, University of Pittsburgh



Courtesy of Dr. Kazuo Yamagata
Department of Genetic Engineering,
Kindai University



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