



3-OMN-N1  
Compass Video Microscope

# Instruction Manual



# Important Information



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This product is authorized for laboratory research use only, not medical product. The product has not been qualified or found safe and effective for any human or animal diagnostic or therapeutic application. Uses for other than the intended use may be a violation of applicable law.

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The Compass is a video microscope that works by a unique pattern-projection method. The images of transmissive objects like cells can be high-contrast and 3D-shape views under the simple optical system. With the PicoPipet, you can conveniently transfer a cell from one container to another while monitoring the process on the screen.

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# 1 Checking the Package

## ■ 3-OMN-N1 Compass Video Microscope

- (1) x Compass basestation with projection light



- (1) x Compass monitor



- (1) x Compass camera & lens



- (1) x Compass RCA yellow cable



- (1) x Compass dual DC cable



- (1) x Compass power adapter and power cord



- (1) x Instruction Manual (this manual)

## 2 Related Products

### ■ PicoPipet pico-pipetting device



The PicoPipet is an electronic ultra-small-pipetting device that has an electroosmotic pump in its pipette part. The special pump can easily control microfluidic flows without pulsation. The weight of the pipette part is just 10 g, and that enables precise manipulations.

Cat #	Description
1-CONTHR-3	PicoPipet controller
1-PPD-SP	PicoPipet pipette part

### ■ Joystick manipulator



The joystick manipulator is a manual control micromanipulator that has a joystick bar to intuitively operate the PicoPipet pipette part at XY axis. The brass bracket part enables the manipulator shape to be flexibly changed according to the microscope environment.

Cat #	Description
1-XYZJ-2	Joystick manipulator

■ **Compass Z Zrobo-mounted video microscope**

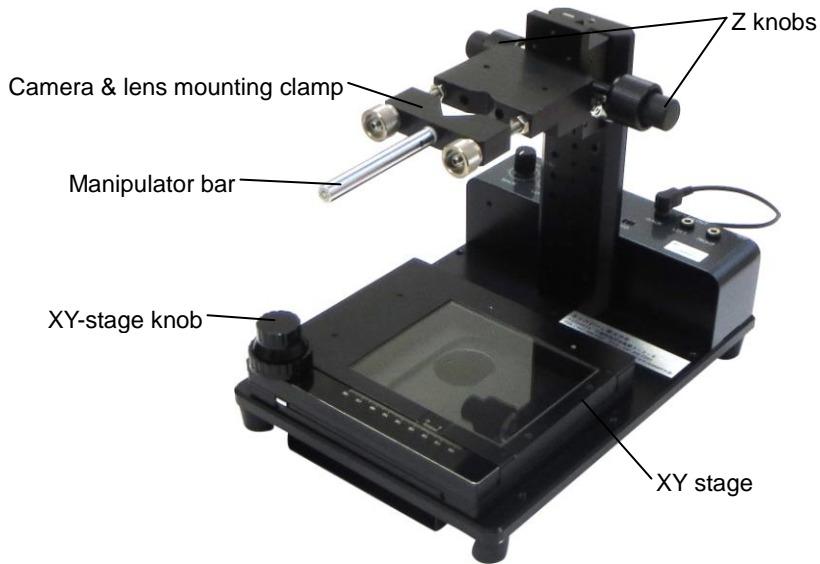


The Zrobo motor that enables automatic z-axis movements is mounted on the Compass video microscope. The height of the PicoPipet pipette part can be automatically changed to the intended height by touching the button on the control panel. (If you have the Compass, it can be upgraded to the Compass Z.)

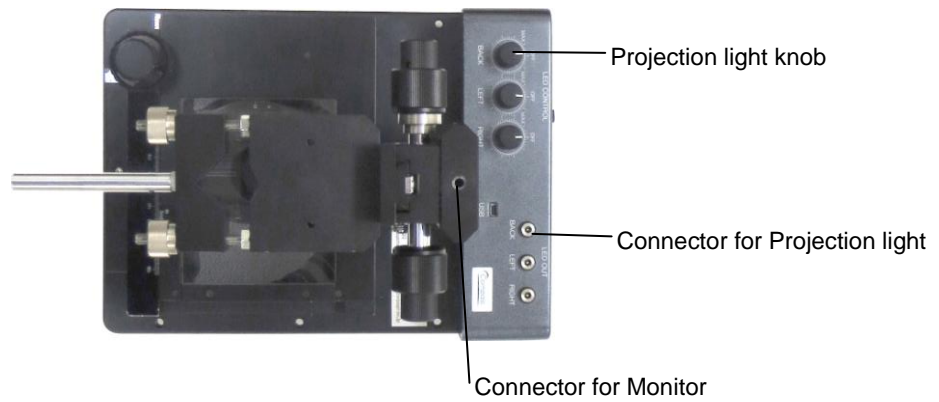
Cat #	Description
3-OMN-Z1	Compass Z Zrobo-mounted video microscope

# 3 Part Names

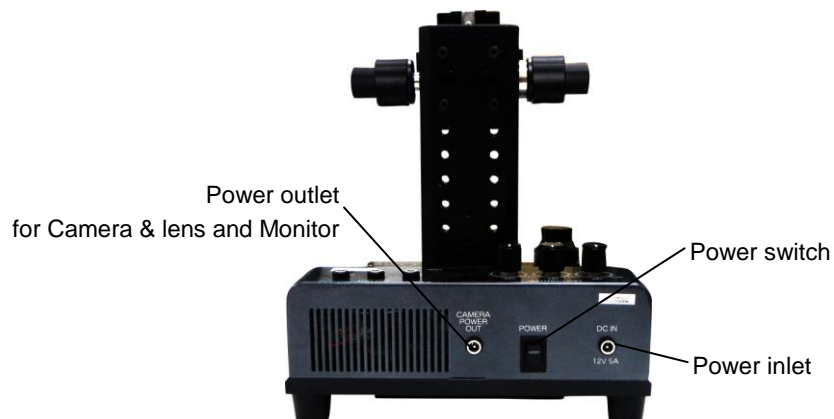
## ■ Basestation top



## ■ Basestation top

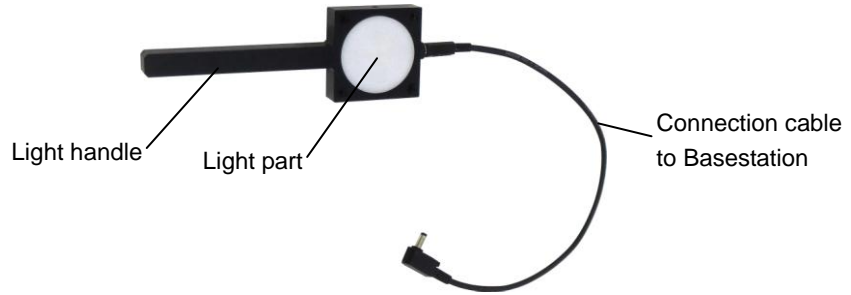


## ■ Basestation rear

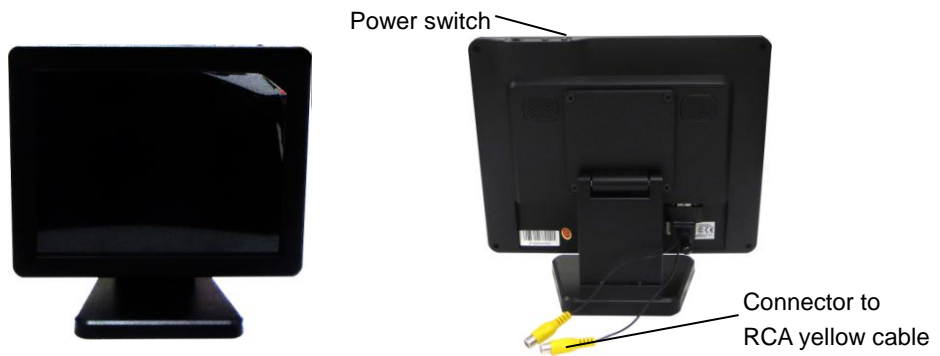




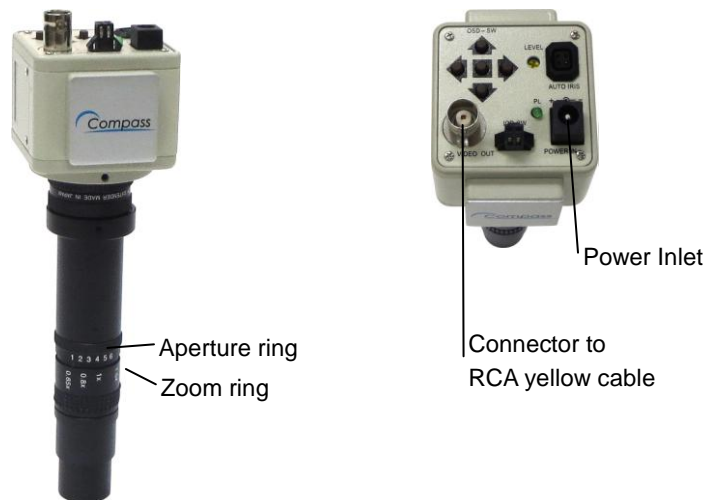
■ Projection light



■ Monitor



■ Camera and lens



# 4 Installation and Connecting

## 4.1 Installation

### ■ Precautions for installation

- Installation site  
The Compass must be installed on a flat/stable-level area.

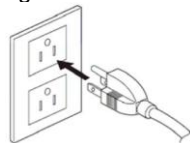
## 4.2 Setting up/Connecting

### ■ Precautions for wiring a power supply and grounding

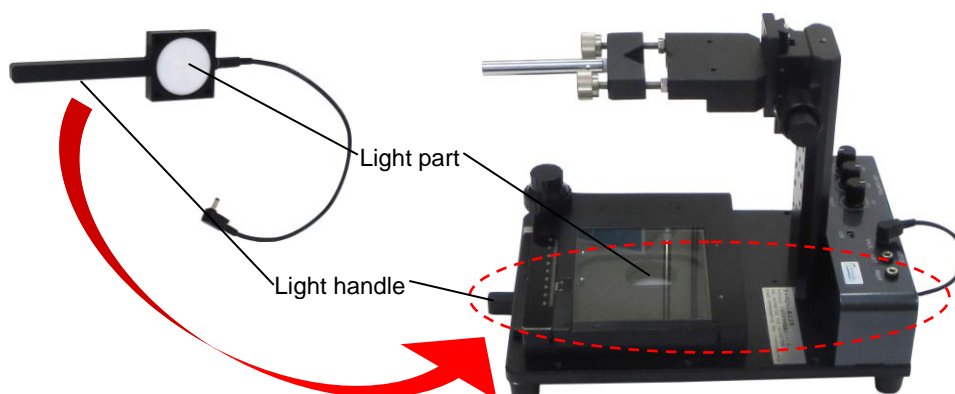


#### Warning

- 1) Observe all ratings and markings on the product and confirm that they correspond to the electrical conditions in the laboratory.
- 2) Use only the power cord specified for this product and certified for the country of use. If no power cord is provided, please select the power cord by referring to the section 6.2 Proper Selection of The Power Supply Cord.
- 3) Connect the cabling after confirming that the power switch is set to OFF.
- 4) Be sure to ensure that there is a protective earth before using the instrument. Otherwise, there is a danger of electric shock. For safety reasons and to minimize or remove unnecessary noise, be sure to ground the instrument.
  - Grounding with the 3-pin plug  
Insert the 3-core plug into a three-core outlet according to the following figure



- 1 Confirm the cable connection of the projection light and adjust the position of the light part using the light handle under the Basestation.



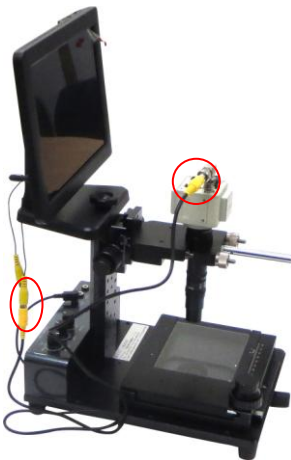
- 2 Set the monitor on the Basestation and tighten the knob screw.



- 3 Set the camera & lens to the mounting clamp.



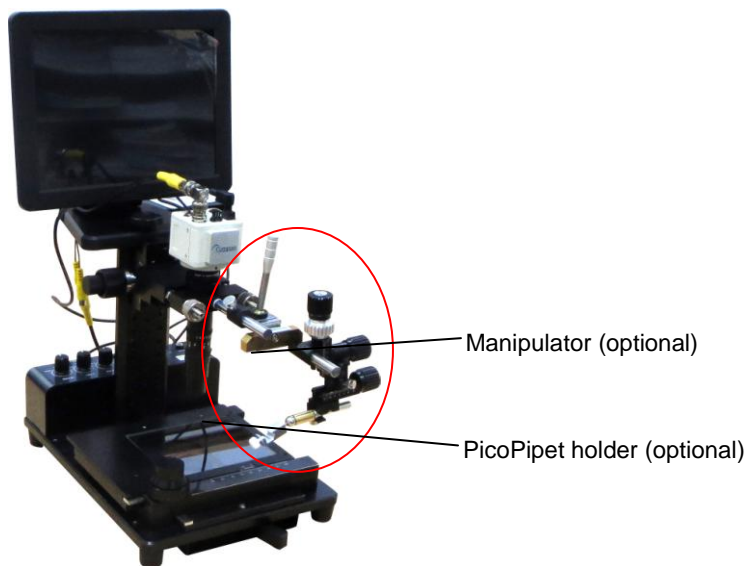
- 4 Connect the RCA yellow cable to the camera and the monitor. The monitor has two connectors and either connector is fine.



- 5 Connect the dual DC cable to the connectors of the Basestation, the monitor, and the camera.



- 6 Set the micromanipulator (optional) to the Compass through the manipulator bar, and set the PicoPipet holder (optional) to the manipulator.



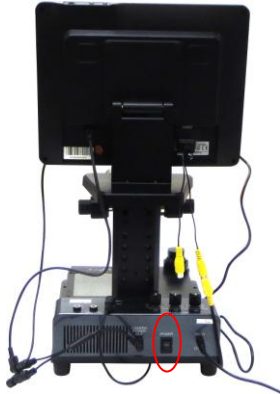
- 7 Connect the power adapter to the Basestation.



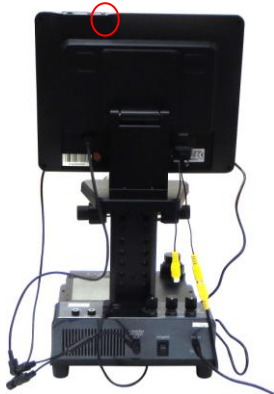
# 5 Operating Instructions

## 5.1 Power on

- 1 Confirm the connections of all of the cables and the power cord.
- 2 Turn on the power switch of the Basestation

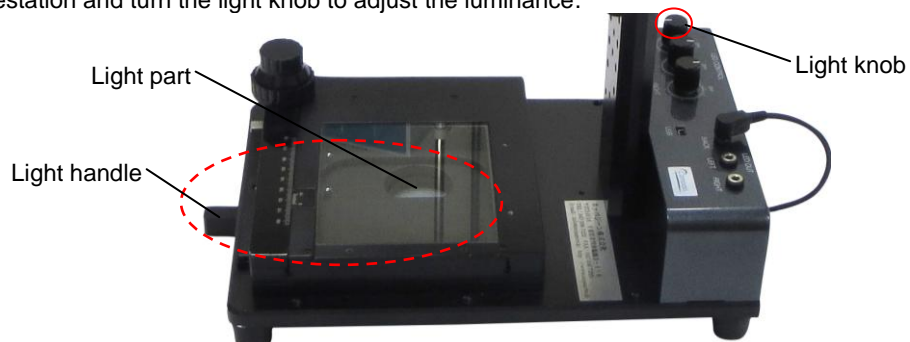


- 3 Turn on the power switch of the Monitor



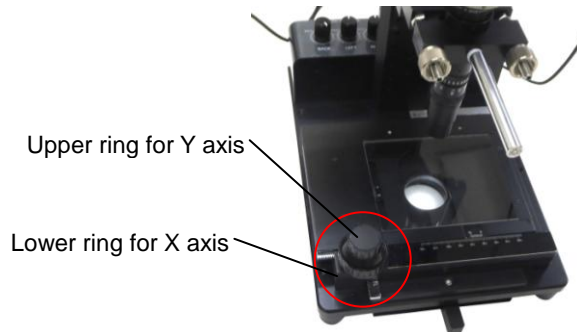
## 5.2 Projection light

Adjust the position of the light part to be in the center of the hole using the light handle under the Basestation and turn the light knob to adjust the luminance.



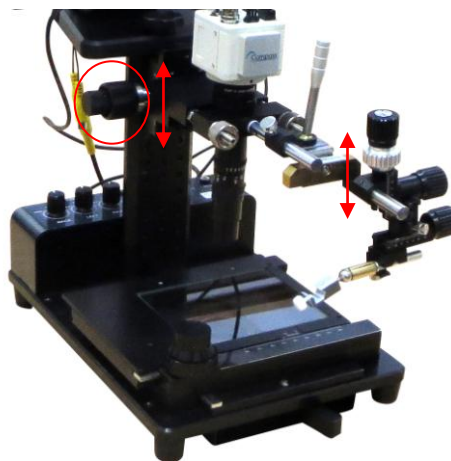
## 5.3 Stage movement

Turn the XY-stage knob to move the microscope stage. The upper ring is for Y axis and the lower ring is for Z axis.



## 5.4 Focusing

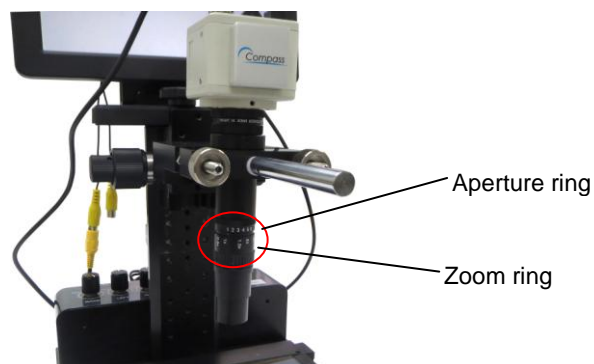
Turn the Z knob to focus the image. **Simultaneously the height of the PicoPipet pipette part will change accordingly because the pipette is fixed to the manipulator and the manipulator is fixed to the Manipulator bar.**



## 5.5 Zoom

Turn the zoom ring to change the magnification (magnification range: 53x to 427x, lens zoom range: 1.3x to 10.4x (with 2x extender))

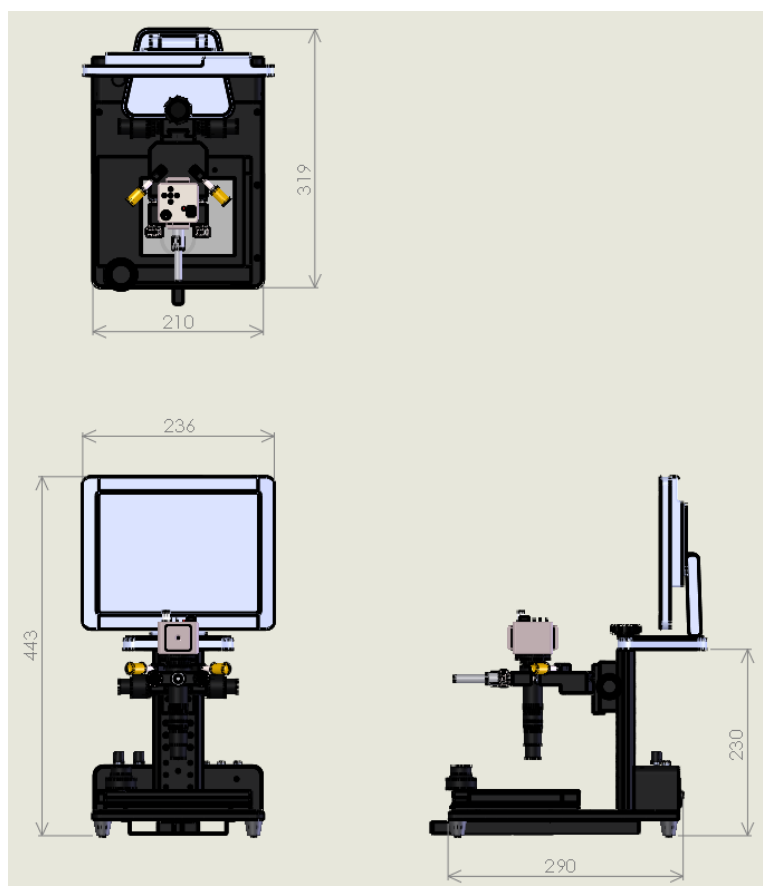
Always keeping the aperture ring the scale "1" is recommended.



# 6 Specifications

Total magnification range	53x to 427x
Lens zoom range	1.3x to 10.4x (with 2x extender)
Working distance	40 mm
Focus and zoom control	Manual
Display type	IPS LCD monitor
Monitor diagonal size	9.7 inch
Monitor resolution	1024 x 768
Monitor aspect ratio	4:3
XY stage travel	75 x 55 mm
XY stage glass size	115 x 95 mm
Z travel	30 mm
Input Rating	Power adapter: AC100-240V 50/60Hz
Operating Environment	Temperature: 10-40°C, Humidity: 80%RH Max (Non-condensing)
Dimensions	236 (W) x 319 (D) x 443 (H) mm
Weight	9 kg

Dimensional drawing







# 7 Warranty

## ■ Limited warranty for products

Nepa Gene Co., Ltd., warrants that its products, as delivered, shall conform to its specification and be free of defects in materials and workmanship when used in accordance with their intended use. This warranty is limited to twenty-four (24) months from the product's original date of shipment from Nepa Gene Co., Ltd.. The warranty for non-durable products is limited to thirty (30) days from the product's original date of shipment from Nepa Gene Co., Ltd.. Further, this warranty does not apply to modifications made to the products by the customer, or damage to products resulting from modifications or repairs effected by customer or other personnel not authorized by Nepa Gene Co., Ltd. to perform such work. This warranty shall not apply to damage resulting from (I) loss or damage in transit, (II) unreasonable use, (III) customer's negligence, or (IV) accident. Nepa Gene Co., Ltd. reserves the right to examine the alleged defective goods in order to determine whether the warranty is applicable.

## ■ Limited warranty and disclaimer

Nepa Gene Co., Ltd. warrants that all services supplied hereunder will be performed in a workmanlike manner, except for the express warranties provided to customer under the above "limited warranty for products", Nepa Gene Co., Ltd. makes no other warranties or conditions, expressed or implied, as to the services or parts supplied hereunder, and Nepa Gene Co., Ltd. expressly disclaims all warranties or conditions of merchant-ability or fitness for a particular use.

## ■ Limitation of liability

Nepa Gene Co., Ltd. liability under this agreement is limited to the expense of providing product repair, neither Nepa Gene Co., Ltd. nor its employees or agents shall be liable for indirect, special, incidental, or consequential damages, including without limitation, business interruption, loss of profits or loss of revenues, loss of wages or injury to persons, property or customers. Furthermore, Nepa Gene Co., Ltd. categorically states that the sole and exclusive remedy for nonconforming goods shall be replacement of defective goods or, at Nepa Gene's option, refund of the purchase price to customer. The parties acknowledge that the price of Nepa Gene Co., Ltd.'s products would be much greater if Nepa Gene Co., Ltd. undertook more extensive liability.

Any action by customer for any alleged breach of the warranty stated in this section must be brought to the attention of Nepa Gene Co. Ltdl within 90 calendar days after the end of the warranty period.

### **Notice:**

Products returned to Nepa Gene Co., Ltd. for repair or replacement shall be received prepaid.

If found not to be defective under the terms of warranty a charge will be made for repair or replacement and freight costs will be at customer's expense.

Specifications are subject to change without notice. For this reason and at its sole discretion, Nepa Gene Co., Ltd. reserves the right to upgrade products during a repair process. Prices for out of warranty repairs are subject to change without notice.



## Contact

Area	Distributor	Address
Canada USA	Bulldog Bio, Inc.	One New Hampshire Ave, Suite 125, Portsmouth, NH 03801, USA phone: +1-603-570-4248 fax: +1-603-766-0524
China	Hua Yue Enterprise Holdings Ltd.	483, Xingnan Road, Nancun, Panyu,Guangzhou, 511442 phone:+86-20-34821111 fax:+86-20-34820098
Europe	Sonidel Limited	32 Tonlegee Drive Cameron Park Raheny Dublin 5, Republic Ireland phone: +353-1-4434358 fax: +353-1-6865462
Germany	Xceltis GmbH	Im Tal 12, 74909 Meckesheim, Germany phone: +49-6226-972418 fax: +49-6226-972419
India	Medi Analytika India Pvt. Ltd	6, Adyar Bridge road, Adyar, Madras - 600 020, India phone: +91-44-2446 0988 fax: +91-44-2446 3931
Israel	Almog Diagnostic	P.O Box 349, Shoham, 73142, Israel phone: +972-3-977-3390 fax: +972-3-977-3391
Korea	Bio-Medical Science Co., Ltd.	BMS Bldg., 22 Yeoksam-ro 7 gil, Gangnam-ku, Seoul 135-936, Korea phone: +82-(0)2-3471-6500 fax: +82-(0)2-3471-7001
Singapore	Insta BioAnalytik Pte, Ltd.	21 Biopolis Road, #03-01 Nucleos 138567 Singapore phone: +65-6515-0110 fax: +65-6515-0220
Taiwan	Bio-East Technology Co., Ltd.	9F., No.21 Fu-Kor Rd. Shi-Lin, Taipei, 111, Taiwan phone: +886-2-2831-3061 fax: +886-2-2831-6374

## Nepa Gene Co., Ltd.

3-1-6 Shioyaki, Ichikawa, Chiba, 272-0114, Japan  
Phone: +81-(0)47-306-7222 Fax: +81-(0)47-306-7333  
Email: info@nepagene.jp

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