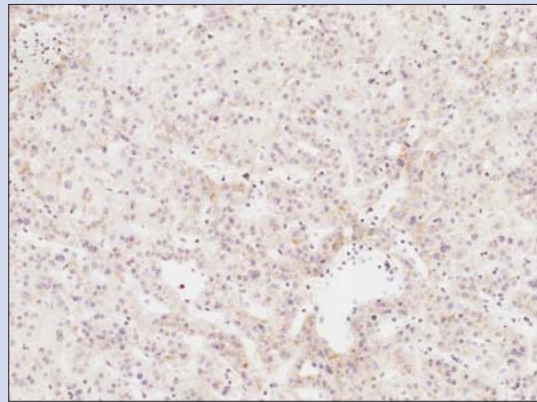


Gene expression analysis by in situ hybridization

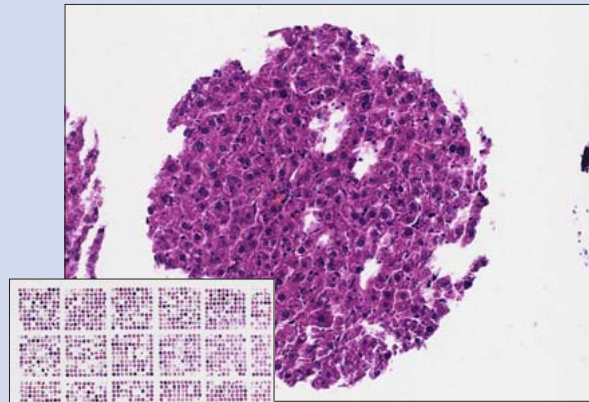
This system can be implemented in the evaluation of tumor and virus infection with observations of gene expression in cells and tissue.



▲ HER2 and CEP17 gene expression observations
Materials supplied by Haruhiko Sugimura, First Department of Pathology, Hamamatsu University School of Medicine

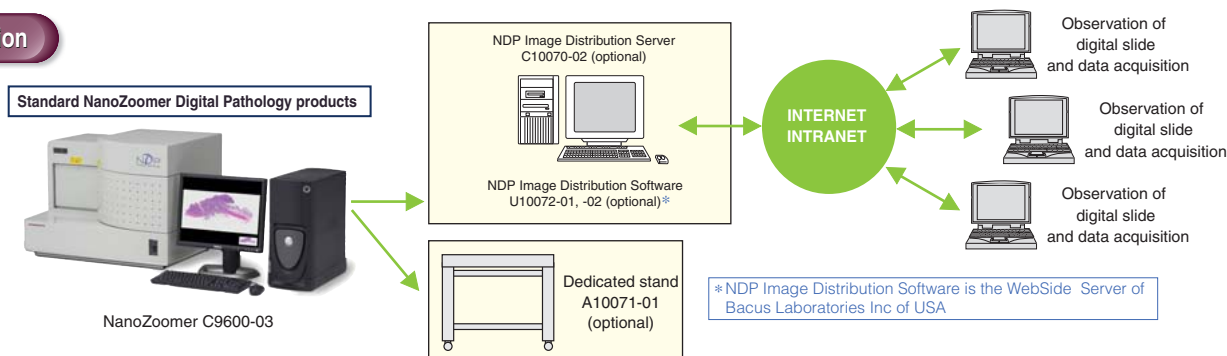
Tissue Microarray

Inclusive observations are carried out by arranging a variety of organ tissue sections on a single glass slide.



▲ Tissue microarray observations
Slide provided by Junya Fukuoka, Laboratory of Pathology, Toyama University Hospital., (Toyama TMA Center)

Configuration



Specifications

NanoZoomer Scanner

| | |
|---------------------------|--|
| Compatible slide glass | 26 mm × 76 mm, thickness 0.9 mm to 1.2 mm (with cover glass) |
| Slide loader | Automatic, maximum 210 slides |
| Scanning range | 25 mm × 52 mm |
| Objective lens | ×20 N.A. 0.7 |
| Spatial resolution | 0.46 μm/pixel (×20 standard mode) and 0.23 μm/pixel (×40 high resolution mode) |
| Scanning method | TDI (Time Delay Integration) |
| Barcode reader | One-dimensional, standard (two-dimensions optional) |
| Scanning time | Approx. 3 min. (20 mm × 20 mm area is scanned at the ×20 mode) |
| Slide setup time | Approx. 2 min. |
| Image compression | JPEG compression |
| Slide format | JPEG compressed image + slide information |
| Computer operating system | Windows XP |
| Dimensions | 860 mm (W) × 590 mm (H) x 637 mm (D): scanner part |
| Weight | 86 kg |
| Power supply voltage | AC 100 V to AC 240 V |
| Power consumption | 400 V · A |
| Compliance | CE |



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Created in Japan (PDF)

Digital Slide Viewing through a Network

A New Tool for Drug Development

Transition from Glass to Digital Slide

A powerful tool for drug development and medical research compatible with a wide range of applications.

NDP[®]

NanoZoomer Digital Pathology

Toxicity tests

Gene expression

Protein localization



CEA immunostained image
Sigmoid colon,
moderately differentiated adenocarcinoma

HE stained image
Sigmoid colon,
moderately differentiated adenocarcinoma

Digital slide of a gastric tissue slide
Width: approx. 31 mm (approx. 67,000 pixels)
Height: approx. 15 mm (approx. 33,000 pixels)

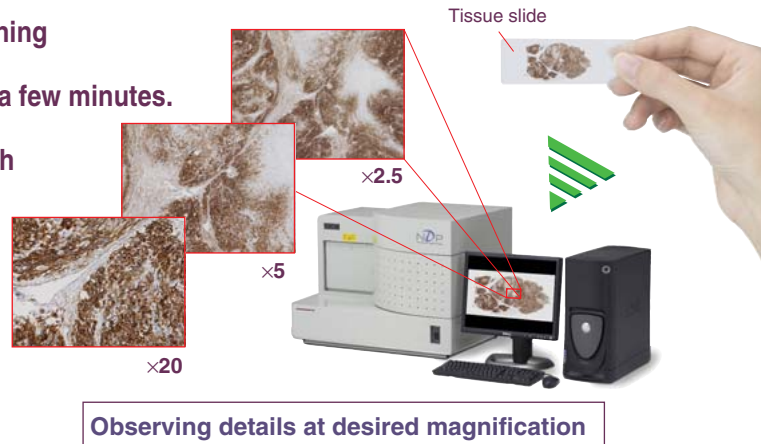


HAMAMATSU



View a low power digital slide overview and the high power magnifications simultaneously.

NanoZoomer Digital Pathology (NDP) is a system for scanning a glass slide and converting the image to a digital slide in a few minutes. digital slides are saved as detailed, precise digital data with very high image quality. The slides can be observed using viewer software at any position, and at any desired magnification using similar techniques to a microscope.



Digital Slide Scanner

Digital Slide

A variety of applications and benefits can be obtained when glass slides are turned into digital slides.

Editing / Data Base / Sharing

Digital Slide technology enables the copying and editing of captured images. In addition, other benefits include data sharing between distant research groups and discussion and review by colleagues of rare and unique samples. Furthermore, these benefits can be widely used for a variety of workflow applications including remote location observation and evaluation of samples via networks and database solutions.

Slide storage

No more worry about damage, deterioration or loss of samples, as seen commonly with glass slides. Digital slides can be viewed at any time and as many times as you want and the sample condition will never change.

Comparison of images

Multiple slides can be observed at the same time and compared. Different samples can be compared and observed at different magnifications and with different stain colors by arranging multiple samples on the monitor.

Image processing / Measurement / Analysis

Calculate measurements of specific cells, and obtain quantitative analysis visually, or with compatible analysis software. Works well with Immunostaining, observations of DNA staining, and toxicity evaluations in drug development.

Features

NanoZoomer is a digital slide scanner utilizing a combination of high speed, high sensitivity and high resolution.

High-speed scanning at approximately 3 min. per slide*

Using a TDI (Time Delay Integration) high-speed sensor, Hamamatsu Photonics has achieved both high speed and high sensitivity. High-speed scanning can be carried out on a slide in the standard x20 mode in approximately 3 minutes, and a high-resolution image with a total of approximately 2 gigapixels is acquired. Furthermore, in x40 mode, it is also possible to acquire images with 8 gigapixels.

* 20 mm x 20 mm field is scanned with x20 mode

Easily process up to 210 glass slides automatically

Process up to 210 slides automatically using the dedicated cassette holders and our precision loading technology. Easily load 210 slides, and with the click of a button, process those slides overnight. Slides acquired overnight can result in a much greater efficiency. In addition, the digital slides then can be transferred to a web server for viewing at any time.

3-CCD detector with superior color reproduction

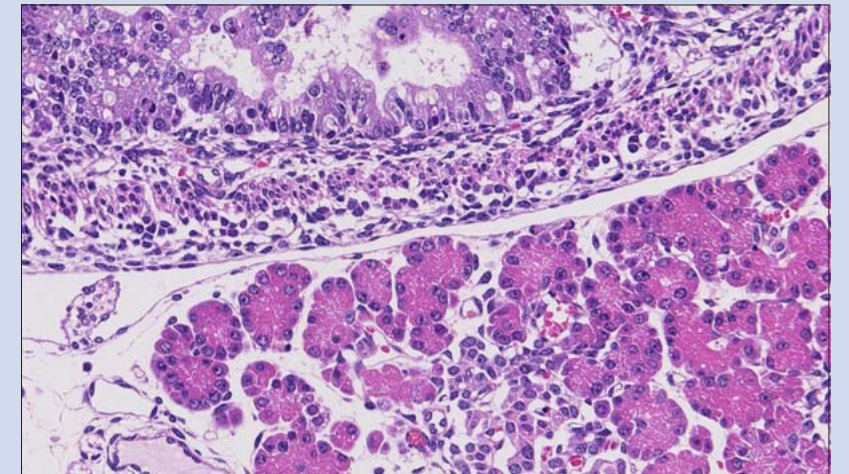
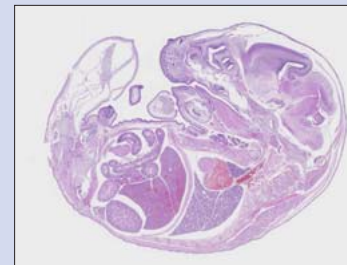
The 3-CCD detector gives superior color reproduction of tissue samples. It is possible to recognize the color changes in detailed parts of the samples.

Applications

A powerful tool for drug development and medical research compatible with a wide range of applications.

HE stained tissue observations

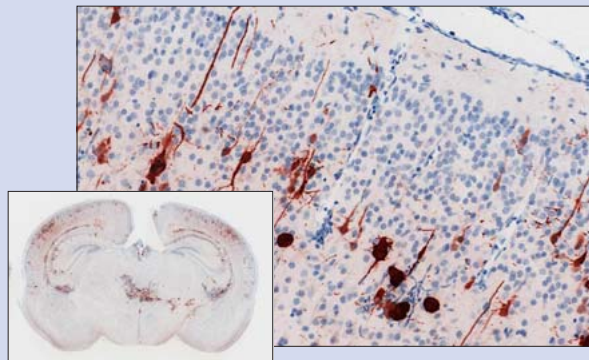
HE staining, is available for a wide range of purposes including pathological investigations and anatomical studies of tissue.



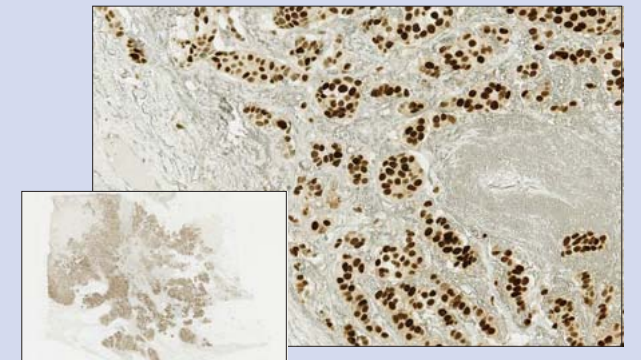
▲ HE staining of mouse embryo

Immunostaining analysis of protein localization and toxicity tests

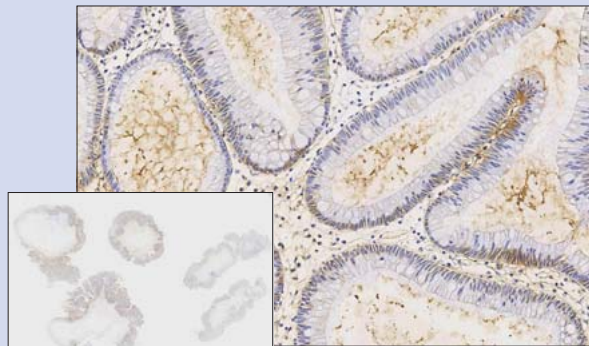
Each localization of different proteins can be observed with using immunostaining, which is available in a variety of applications.



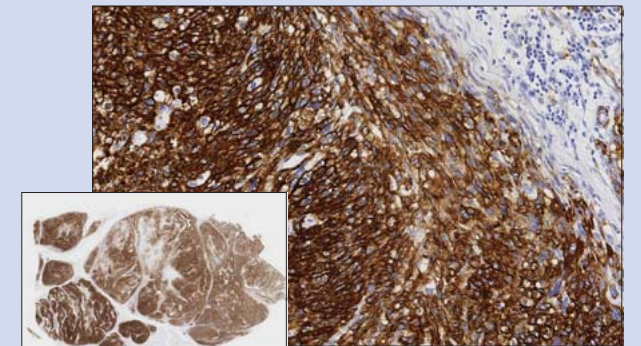
▲ Cytomegalovirus antigen staining in mouse brain
Materials provided by Isao Kosugi, Chair of Second Department of Pathology, Hamamatsu University School of Medicine



▲ Observation of estrogen receptor localization in breast cancer tissue



▲ CEA staining in colonic adenoma (colon cancer)
Materials supplied by Jun Hanai, Department of Pathology, Bell Land Hospital



▲ Observation of α-SMA localization in uterine leiomyosarcoma
Materials supplied by Jun Hanai, Department of Pathology, Bell Land Hospital