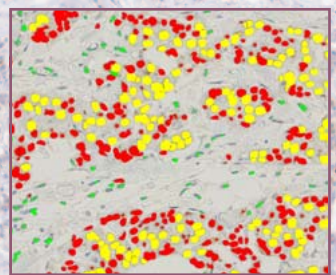


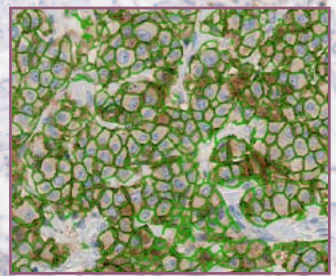
# IHC Image Analysis Software

# NDP<sup>®</sup>.analyze

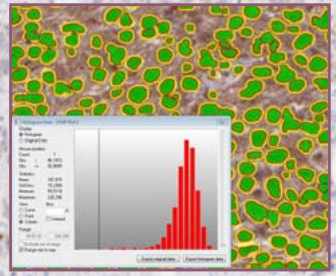
**Nuclei analysis: Ki-67, ER, PgR, p53**



**Membrane analysis: HER2, EGFR**



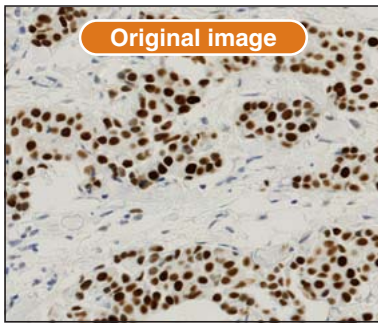
**Cytoplasm analysis: p16,  $\alpha$ -SMA, CD34**



NDP.analyze provides a range of software tools for the quantitative analysis of nuclear, cytoplasmic and membrane biomarkers.

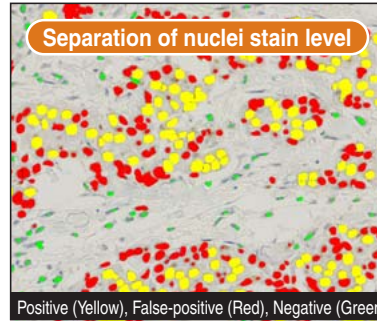
## Nuclei analysis: Ki-67, ER, PgR, p53, etc.

Automatically counts the number of positive and negative nuclei and ratio.



Original image

Ki-67



Separation of nuclei stain level

Positive (Yellow), False-positive (Red), Negative (Green)

▲ Classification of nuclei is possible based on the stain levels.

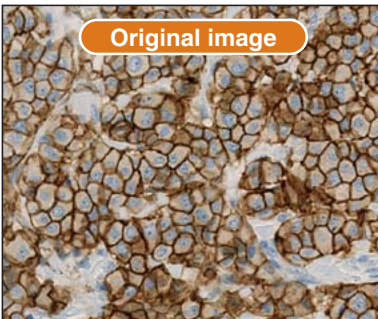
### Analysis items

- Stain intensity
- Number of positive nuclei
- Number of negative nuclei
- Total number of cell nuclei
- Percentage positive

## Membrane analysis: HER2, EGFR, etc.

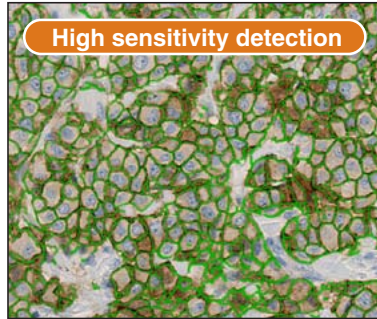
Automatically computes the areas and ratios of DAB positive areas.

Set threshold values and display scores based on the stain intensity.



Original image

HER2



High sensitivity detection

▲ Detects positive areas based on the specified membrane threshold value.

### Analysis items

- Number of cells
- Stain intensity
- Area of positive staining
- Percentage positive

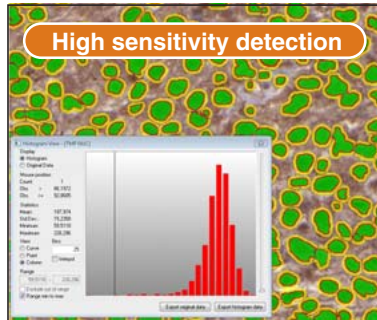
## Cytoplasm analysis: p16, $\alpha$ -SMA, CD34, etc.

Automatically computes the areas and ratios of DAB positive areas.



Original image

p16



High sensitivity detection

▲ Cytoplasm markers can be used for the detection of immunostained regions and the quantification of intensities. Histograms can be shown easily.

### Analysis items

- Number of cells
- Stain intensity
- Area of positive staining
- Area of negative staining
- Percentage positive

# Provides a simple method of conducting IHC analysis for pathology.

## Features

### Software designed specifically for the analysis of pathological images

NDP.analyze is a software application for analyzing IHC images. It provides optimal protocols for analysis such as nuclei, membrane, and cytoplasm analyses.

### Easy operation using standard protocols

NDP.analyze provides standard protocols for nuclei, membrane, and cytoplasm analyses. To perform an analysis, simply recall a standard protocol and execute it. This makes it easy for you to perform a variety of analyses. Protocols can be added as options.

### Easy standard protocol optimization

For each standard protocol, you can easily adjust parameters such as sensitivity, threshold values for scoring, nucleus size, and area of cytoplasm using slide bars. This enables you to find the best settings for the sample without effort. These settings can be saved with a name so that they can be recalled later.

### Intuitive, easy operation using a general-purpose personal computer

Images can be analyzed intuitively. The software's efficient algorithm allows analysis to be performed even on a general-purpose personal computer.

### Data management

Analysis results from NDP.analyze can be managed in a database, which maintains traceability of data. Slide images, analysis results, regions of interest (ROIs), and layer images for identifying membranes and nuclei, which are drawn on images during analysis, can all be managed.

### Batch analysis on multiple images

NDP.analyze is capable of batch analysis of multiple images. Simply set the region of interest of each image and analyze the images consecutively. Analysis results are automatically stored in the database. Related slides, analysis results, layer images, and so forth can be reviewed with a simple click of a mouse. The data can be exported to files in various formats for further analysis in other applications such as Excel.

## Expandability

NDP.analyze can be expanded to support the following features.

### Fluorescent whole slide imaging

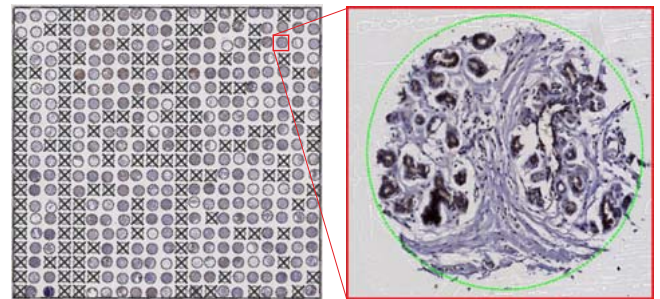
NDP.analyze supports the fluorescent whole slide imaging of the NanoZoomer series. It not only determines the number of nuclei, membranes, and cytoplasm and the areas of fluorescence samples but also performs intensity and other analyses.

### NDP.serve (slide distribution and management software)

As an option, NDP.analyze can work with NDP.serve (slide distribution and management software). Even if you do not have a file on hand, you can perform analysis on data available on servers. This feature enables a user to perform analysis remotely or a group of users to analyze the same file over a network.

### TMA analysis (option)

The Array Imager module facilitates the analysis of TMAs while maintaining complete traceability of the data.



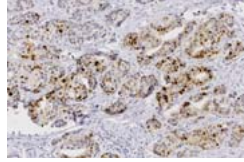
**For analysis other than IHC, please ask Hamamatsu.**

## Analysis workflow

Operate easily using menus.

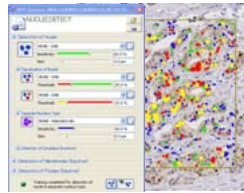
### 1 Loading slide files

Load slide files to analyze. Images available on NDP.serve can also be loaded.



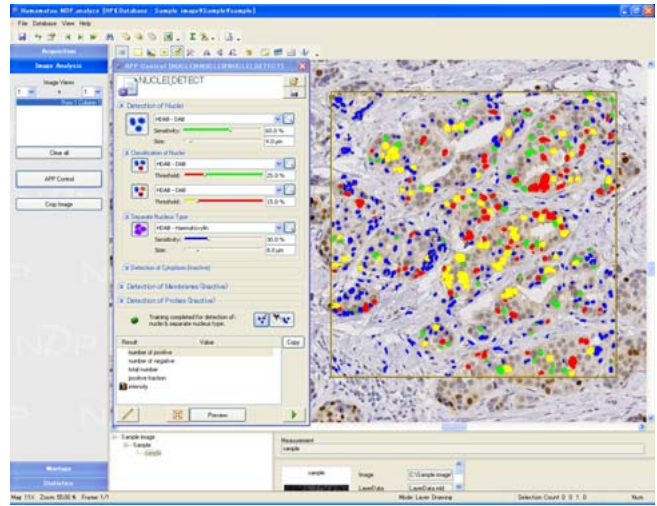
### 2 Setting analysis conditions and executing analysis

Select the analysis protocol and analysis region, and execute analysis. You can set analysis regions on multiple slide files and execute the analyses consecutively.



### 3 Displaying analysis results

NDP.analyze displays analysis results on the basis of the specified analysis protocol. The results can be exported to an Excel sheet.



### Database management

Slide files, analysis conditions, and analysis results can be stored and managed in a database.

This feature enables you to efficiently perform consecutive analyses and view the data after analysis.



## Recommended operating environment

The following personal computer environment is recommended.

OS	Windows® 7, Windows XP SP3 32 bit and 64 bit
CPU	Core II Duo or later, 2 GHz or faster
Main memory	4 GB or more
Display card	VRAM 256 MB or more
HDD capacity	30 GB or more free disk space
Display	FHD (1920×1080) or UXGA (1600×1200) or better
Network connection	Ethernet connectivity

The following file formats are supported.

Digital slide file format	.ndpi / .vms / .vmu / .ndps
Picture file format	.jpg / .bmp / .tiff

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