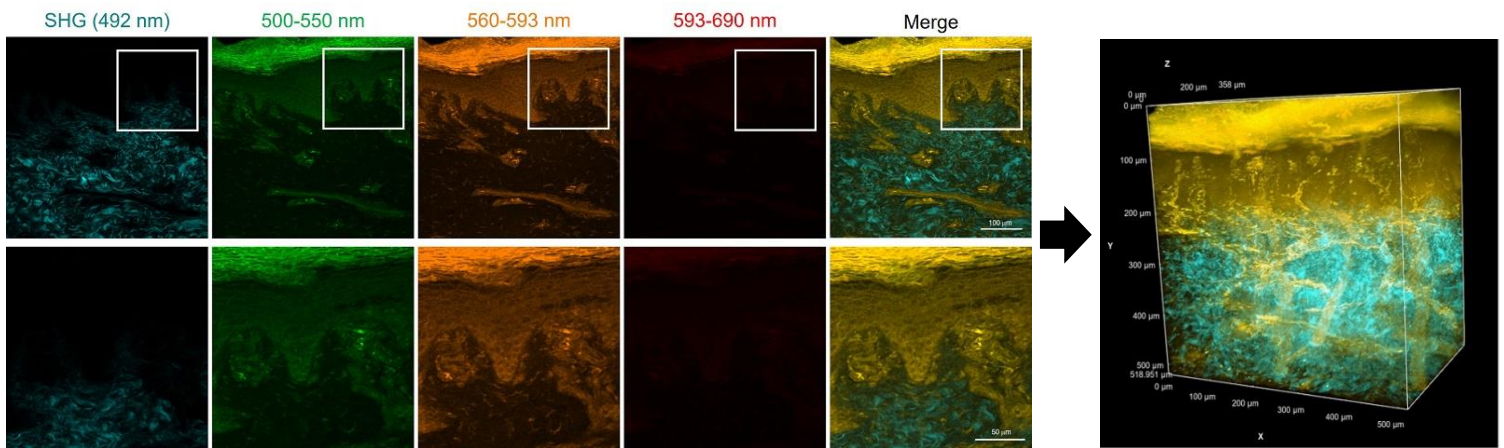


# HistoBright™

520068



**HistoBright™ is an environment-responsive membrane-staining fluorescent dye which can be excited by the two photon laser. It has high tissue permeability, and its fluorescent properties change depending on the local structure of the tissue, allowing high-contrast tissue visualization. Combining tissue clearing techniques with two photon laser microscopy allows deep-imaging and spatial structural analysis of tissue blocks.**



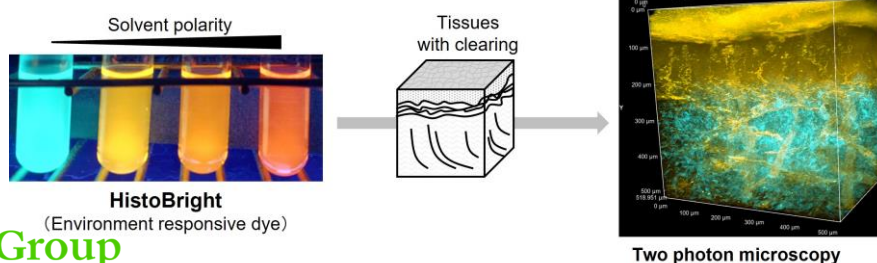
## Two-Photon Fluorescence Microscopy Imaging of Human Normal Skin Tissue

After fixation of human skin tissue blocks with 4% paraformaldehyde/PBS, thick slides were prepared and treated with the LUCID clearing reagent and HistoBright™. The tissue slides were observed by two-photon fluorescence microscopy (Ex. 960 nm, Em. **cyan channel**: 492 nm as SHG, **green channel**: 500-550 nm, **orange channel**: 560-593 nm, and **red channel**: 593-690 nm). The merged image was obtained from four channels.

## Historical Colorimetric Methods & Novel Fluorescent Method for Tissue Structure Analysis

Tissue structures are historically visualized by staining with various colorimetric dyes such as Hematoxylin and Eosin (HE) stains. These conventional colorimetric stains generally require thinly sliced tissue sections and are unsuitable for thick tissue blocks. However, the preparation of thinly sliced tissues loses the 3D structural information. To reconstitute 3D information, a lot of additional thin slices and stainings are required.

HistoBright™ is a novel solvatochromic fluorescent dye that changes fluorescent colors in response to solvents or microenvironments and has a high affinity to various biological membranes. The combination of two features of HistoBright™ contributes to clear and bright 3D deep tissue imaging.



Distributed by:  
**CliniSciences Group**  
HistoBright  
(Environment responsive dye)

Two photon microscopy

## Features

- HistoBright™ is an environment-responsive membrane staining reagent. Since the fluorescence characteristics change from green to near-infrared depending on the surrounding environment, local structures of tissues can be visualized in high contrast.
- Combined with a tissue clearing methods such as RapiClear, LUCID, which does not involve lipid removal steps, a three-dimensional analysis of large tissue structures is possible.
- Both confocal microscopy and two photon microscopy are compatible.
- In the case of two photon laser microscopy, SHG (second harmonic generation) imaging can be compatible with HistoBright™ and collagen fibers can be simultaneously visualized.
- After fluorescent observation of tissue with HistoBright™, tissue can be used for HE staining.

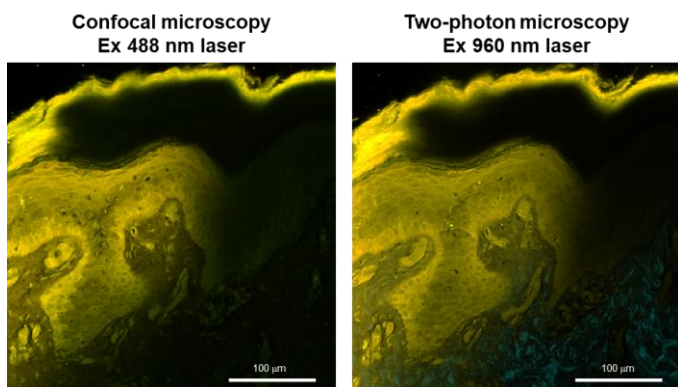
## Application

- Spatial structural analysis of tissue sections by confocal laser microscopy
- Spatial structural analysis of tissue blocks by combining tissue transparency and two-photon laser microscopy

## Application data

### Comparison between Confocal Microscopy and Two-Photon Microscopy Imaging

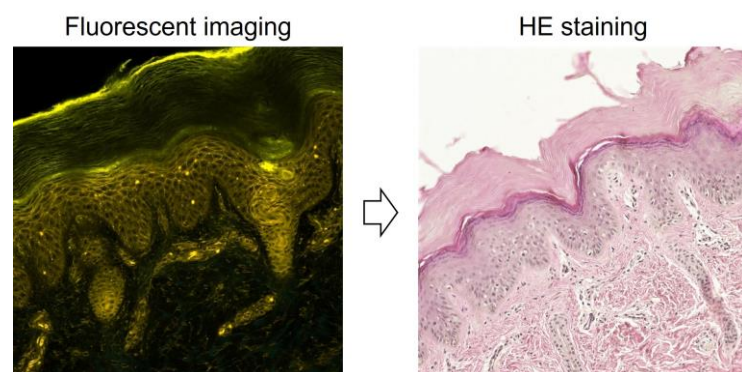
After fixation of human skin tissue blocks with 4% paraformaldehyde/PBS, 500 µm thick slides were prepared and treated with the RapiClear clearing reagent and 10 µM HistoBright™ for 72 hours. Tissues were observed by confocal microscopy (488 nm laser) and twophoton microscopy (960 nm laser).



### HE Stains after HistoBright™ Fluorescent Imaging

After fluorescent imaging, the stained tissue block was washed with PBS.

Thin tissue slices were prepared from the tissue block and re-stained with the conventional HE staining procedure.



Product Name	Product Code	Size
HistoBright, Tissue Structure Fluorescent Dye	FDV-0051	0.1 mg

Your Local Distributor

Funakoshi Co., Ltd. (JAPAN)

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**CliniSciences Group**

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