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Lab & Production Materials

MERCK

Visikol® Histo™ and Histo-M™ Tissue Clearing Reagents

One of the most impactful trends to occur recently in histopathology is the popularization of new tissue clearing methods in microscopy and high-content applications. These techniques render tissues transparent by harmonizing the mismatched refractive indices of cellular components, enabling true 3D microscopic analysis of intact biological structures, rather than prevailing methods that required the laborious preparation and analysis of individual image slices. The power of tissue clearing has already been harnessed by leading researchers to address key questions at the frontiers of neuroscience, cancer biology, and developmental biology. With the multitude of tissue clearing methods available today, it is important to understand how aqueous and solvent-based approaches impact the output of the data, the assay workflow and the tissue specimen itself. We are partnering with Visikol® to offer the HISTO™ and HISTO-M™ reagents, which can be used to easily and reversibly clear tissue or 3D cell cultures while retaining sample integrity for downstream analysis.

Visikol® tissue clearing method features and benefits include:

- Fast, non-toxic workflow with no special equipment or acrylamide embedding
- Effectively perform immunostaining or fluorescent protein analysis on cleared samples
- Retain morphology and lipid content information in your samples
- A reversible clearing procedure to conduct additional downstream analysis
- Access to proven protocols for a variety of tissue and cell imaging applications

Visikol® Histo™ Tissue Immunolabeling Workflow

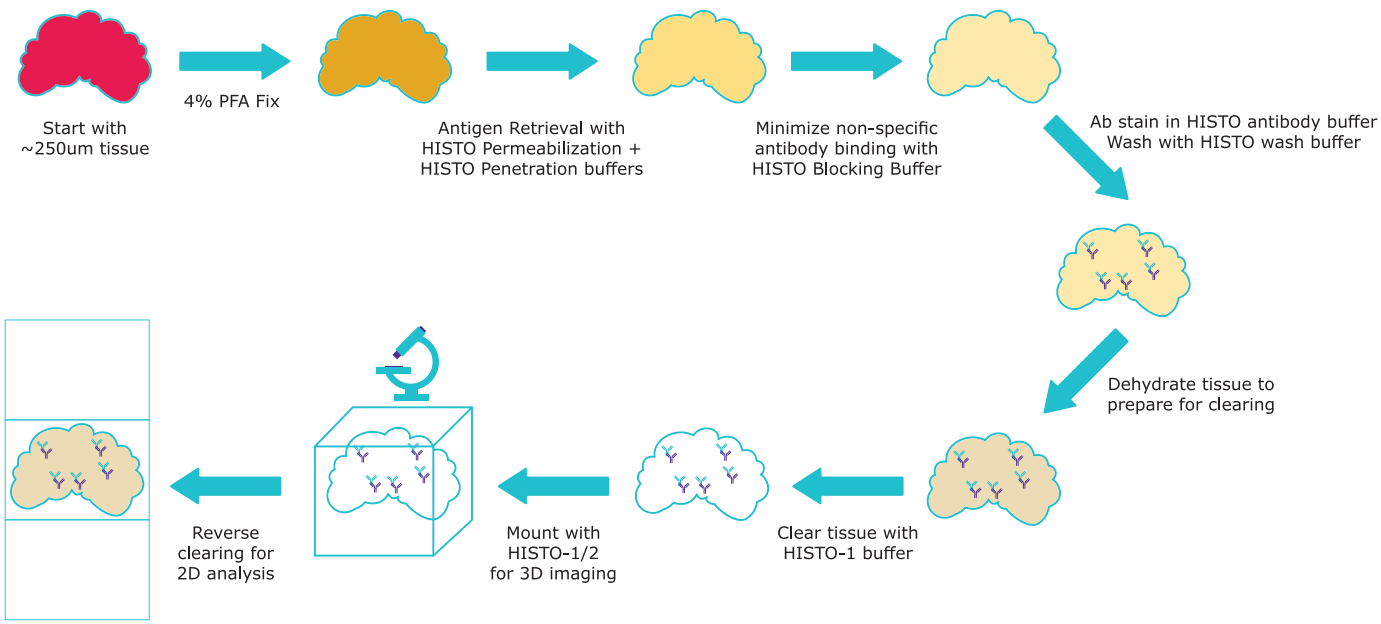

Figure 1: Visikol® Histo™ reagent tissue clearing and reverse clearing workflow.

Comparing Visikol® tissue clearing with other leading methods

Visikol® reagents quickly and safely clear tissues for immunostaining and fluorescent protein analysis, while retaining integrity of processed samples for downstream analysis.

	Assay compatibility		Workflow/Ease of Use		Sample retention	
Method	**Immunostaining**	**Fluorescent Protein**	**Clear Time**	**Toxic**	**Morphology**	**Lipids**
Visikol®	Yes	Yes	Hours/Days	No	Yes	Yes
Clarity	Yes	Yes	Days/Weeks	Yes	No (expansion)	No
BABB	Yes	No	Days	Yes	No (shrinkage)	No

Representative data:

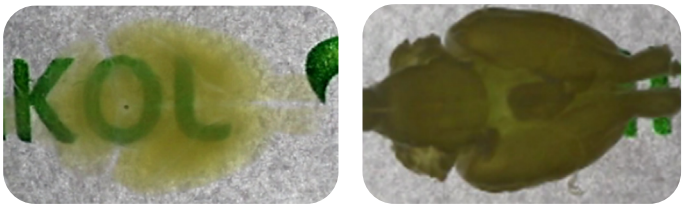

Figure 1: Reversible nature of HISTO tissue clearing method. Left panel: rat brain process after clearing; Right panel: tissue opacity restored after reversal

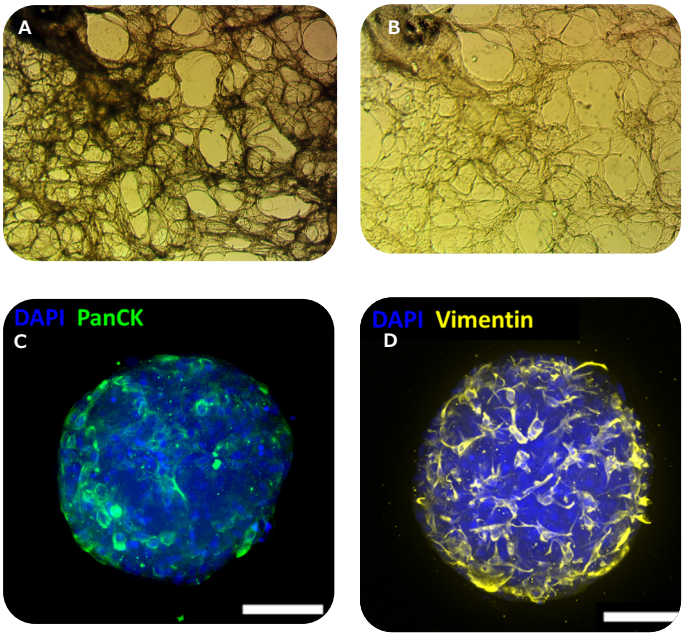

Figure 2: A,B.) Precision cut lung slice before (left) and after (right) subjected to tissue clearing by Visikol HISTO method C,D.) Liver 3D cell culture models treated with Visikol® Histo-M™ and stained with DAPI and PanCK (C) and Vimentin (D).

Product Description	Volume	Cat. No.
Visikol® HISTO-M™ Starter Kit	1 kit	**HMSK-1**
Visikol® HISTO™ Starter Kit	1 kit	**HSK-1**
Visikol® HISTO-1™	30 mL	**H1-30**
Visikol® HISTO-1™	100 mL	**H1-100**
Visikol® HISTO-2™	30 mL	**H2-30**
Visikol® HISTO-2™	100 mL	**H2-100**
Visikol® HISTO-M™	30 mL	**HM-30**
Visikol® HISTO-M™	100 mL	**HM-100**
Visikol® HISTO™ Antibody Buffer	30 mL	**HSK-AB-30**
Visikol® HISTO™ Antibody Buffer	100 mL	**HSK-AB-100**
Visikol® HISTO™ Blocking Buffer	30 mL	**HSK-BB-30**
Visikol® HISTO™ Blocking Buffer	100 mL	**HSK-BB-100**
Visikol® HISTO™ Penetration Buffer	30 mL	**HSK-PB-30**
Visikol® HISTO™ Penetration Buffer	100 mL	**HSK-PB-100**
Visikol® HISTO™ Permeabilization Buffer	30 mL	**HSK-PMB-30**
Visikol® HISTO™ Permeabilization Buffer	100 mL	**HSK-PMB-100**
Visikol® HISTO™ Washing Buffer 10X	70 mL	**HSK-WB-70**
Visikol® HISTO™ Washing Buffer 10X	200 mL	**HSK-WB-200**

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Merck KGaA
Frankfurter Strasse 250
64293 Darmstadt, Germany

SigmaAldrich.com

Lit. No. MK_FL5422EN Ver. 1.0 30346 05/2020