

450 mL  
2×450 mL

130-126-335  
130-128-511

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## 1. Description

This product is for research use only.

<b>Components</b>	450 mL MACS Imaging Solution or 2×450 mL MACS Imaging Solution
<b>Specifications</b>	The refractive index is 1.556–1.562.
<b>Storage</b>	Upon arrival store at +2 to +8 °C. MACS Imaging Solution is ready-to-use. The expiration date is indicated on the vial label. For detailed information about usage and storage refer to chapter 2.

### 1.1 Principle of MACS Imaging Solution

MACS Imaging Solution is a non-toxic organic solvent with a defined and controlled refractive index of 1.556–1.562 that can be used for 3D imaging of cleared tissues with a matching refractive index, such as tissues that have been cleared using the MACS Clearing Kit. MACS Imaging Solution is used to fill in the imaging chamber of the microscopy system of choice and embed cleared tissues for their analysis.

### 1.2 Background information

Fluorescence imaging of large biological systems in three dimensions (3D) requires working with optically transparent tissues. However, most tissues are opaque and therefore need to be treated with chemical components in order to render them transparent; a process also known as tissue clearing. For 3D imaging analysis, the cleared tissues need to be embedded in a solution that matches their refractive index. The specific refractive index of a tissue after clearing is given by the refractive index of the reagent used to render the tissue transparent.

### 1.3 Applications

- Three dimensional imaging and analysis of complex biological structures, such as mouse brain, cerebral organoids or tumor samples, using light sheet fluorescence microscopy, confocal, or two-photon microscopy.

### 1.4 Reagent and instrument requirements

- MACS Clearing Kit (# 130-126-719) to clear samples before refractive index-matched imaging in MACS Imaging Solution

## 2. Protocol

▲ MACS Imaging Solution is an organic solvent and might not be compatible with all plastics. Use polypropylene tubes or containers.

▲ MACS Imaging Solution may freeze at +2 to +8 °C. It is recommended to prepare aliquots of appropriate volume and store at +2 to +8 °C. Prepare aliquots matching the volume capacity of the imaging chamber used for the imaging analysis of the cleared tissue. Adjust aliquots to room temperature before proceeding to imaging.

▲ MACS Imaging Solution can be re-used several times for imaging of cleared tissues. The frequency of re-use depends on the tissue as well as on the analysis and needs to be determined by the user.

▲ For more information about protocols to clear different tissues refer to [www.miltenyibiotec.com/tissue-clearing-protocols](http://www.miltenyibiotec.com/tissue-clearing-protocols).

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