

Product Datasheet
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ADAPT-3D™ Delipidation Buffer Component A

Product Information
Product No.: B672
Storage: Ambient “room” temperature

Product Description

Background:

The ADAPT-3D Delipidation Buffer Component A is a crucial part of the innovative ADAPT-3D Tissue Clearing Kit developed by Leinco Technologies. This kit represents a significant advancement in preparing biological tissues for 3-dimensional fluorescence imaging, offering superior speed, versatility, and preservation of tissue morphology and fluorescence.

Traditional tissue clearing methods often involve lengthy protocols and can sometimes compromise the integrity of the tissue or the fluorescence signal. The ADAPT-3D method, including its specialized delipidation process, was designed to overcome these limitations. Lipids within tissues are a major source of light scattering, hindering deep tissue imaging. Efficient removal of these light-interfering substances is therefore paramount for achieving optical clarity and enabling clear visualization of fluorescent signals deep within samples.

ADAPT3D Delipidation Buffer Component A works in conjunction with Component B (and other buffers in the ADAPT-3D kit) to achieve partial delipidation. This targeted delipidation step is a key innovation of the ADAPT-3D protocol. It facilitates the removal of lipids while carefully maintaining the tissue's structural integrity and minimizing any potential loss of endogenous fluorophores or antibody staining efficiency. The development of this component is rooted in a deep understanding of the challenges associated with tissue transparency and the need for a robust, rapid, and non-toxic solution for advanced 3D microscopy.

By contributing to the efficient and gentle delipidation process, ADAPT3D Delipidation Buffer Component A plays a vital role in enabling researchers to rapidly prepare fixed tissue samples across a wide range of species and tissue types, from human intestinal tissue to intact mouse brains, for unprecedented depth and clarity in 3D fluorescence imaging.

Formula:

The ADAPT-3D™ Delipidation Buffer is formulated with a proprietary blend of reagents optimized for efficient lipid removal while preserving tissue integrity for high-resolution 3D imaging.

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Storage & Stability:

Store the buffer at room temperature in a dry environment, ensuring it is protected from moisture and temperature fluctuations. Do not freeze the product; when stored as directed, it maintains full potency and stability for up to six months.

Shipping:

Available for shipment at room temperature via Ground or 2-Day Express delivery.

Country of Origin:

USA

Directions for Use:

Delipidation Step in the ADAPT-3D Protocol

Preparation: In a glass container, prepare the delipidation solution by mixing equal volumes (1:1) of ADAPT-3D™ Partial Delipidation Buffer A (Catalog #B672) and Partial Delipidation Buffer B (Catalog #B676).

Incubation: Submerge the samples in the freshly prepared ADAPT-3D™ Delipidation Buffer. Incubate until a moderate level of tissue transparency is achieved.

Important Safety Note: Partial Delipidation Buffer B is corrosive to most plastics. Always use glass containers and follow appropriate safety precautions. Consult the Safety Data Sheet (SDS) for detailed handling and storage information. Always wear protective gloves, lab coat, and safety goggles during this step.

Each investigator should determine their own optimal working dilution for specific applications. See directions on lot specific datasheets, as information may periodically change.

Hazard Description:

Handle the ADAPT-3D™ Delipidation Buffer with care in all laboratory settings. Always use appropriate personal protective equipment, including gloves, lab coat, and safety goggles. For comprehensive guidance on safe handling, storage, and emergency procedures, refer to the product's Safety Data Sheet (SDS). *NOTE: Partial delipidization B is corrosive to most plastic types. Read the Safety Datasheet (SDS) and the following handling instructions. Wear appropriate protective eyewear, clothing and gloves.*

Related Products:

Product No.	Description
B673	ADAPT-3D™ Immunostaining Buffer

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B676	ADAPT-3D™ Delipidation Buffer Component B
B671	ADAPT-3D™ Decolorization Buffer
B674	ADAPT-3D™ 5X Wash Buffer
B675	ADAPT-3D™ Refractive Index Match Buffer
A630	ADAPT-3D™ Tissue Clearing Kit