

## 1. PRODUCT DESCRIPTION

GENIUL\_4900013025

### PEMAX 25 Reagent Monodose (TBC-Biomarker kit)

#### What this product does

This product is comprised of a mix of photo-reactive azide forms of phenanthridium and Reaction Buffer +; and is designed for photo labelling of nucleic acids from dead cells present in an aqueous suspension.

After the treatment of microbial aqueous suspension with PEMAX Reagent monodoses, DNA/RNA from active or functional cells with undamaged membrane will be free of labelling and will be detected only DNA/RNA from these cells by different analytical procedures such as PCR, flow cytometry or fluorescence microscopy.

GeniUL PEMAX Reagent monodoses (TBC-Biomarker kit) suitable for use in *Mycobacterium tuberculosis* biomarker studies.

The combination of PEMAX Reagent and vPCR buffers is a technology developed by GeniUL.

<http://www.sciencedirect.com/science/article/pii/S0890850815000304>

#### Biomarker use

This kit can be used for research purposes in order to evaluate the levels of living cells in clinical samples, therefore the disease status or the response to treatment can be evaluated.

The use of vPCR as biomarker tool needs to compare the amount living cells over the total amount of cells. Thus, it's necessary to analyse a sample that hasn't been treated (control).

- 1) Successful treatment will show that the level of living cells is low.
- 2) An active disease will show that the the level of living cells is high.

Current knowledge, and our internal data, shows that Ct differences  $\geq 6$  corresponds to successful treatment.

<http://www.ncbi.nlm.nih.gov/pubmed/25534168>

#### Storage / Stability

On receipt reagent tubes store it in the lab fridge at 0-5°C. Protect from direct light. Upon receipt this product will be stable at least during 1 year.

#### Contents

PEMAX Reagent 25 monodoses (blue cap) and 25 control tubes (white cap ) ready to use.

## Additional Equipment Required

- GeniUL Photoactivation systems:

PhAST Blue (Cat.No. 9000700)

PAUL System (Cat.No. 90001400)

- Isothermal system for micro-tubes incubation:

Dark Box System (Cat.No. 90001200)

- D-Bag system:

D-Bag Holder (Cat.No. 900099645)

D-Bag: 4 units/100 of active charcoal pellets each. Funnel Ø45 included  
(Cat.No.4900009500)

## Microbiological state

Sterile product

## Applicability statement

The amount of reagent contained is sufficient to neutralize the DNA of at least  $1.10^5$  dead cells or cells with damaged membrane

This product has been formulated according to complains the range of reagents concentration needed for 500 uL of sample. If is necessary adjust your sample to this volume add sterile distilled water. Working with low reaction volumes will increase reagents concentrations; however some of them can become toxic for some microorganism.

This product has been successfully tested with *Mycobacterium spp* (*M. tuberculosis*, *M.smegmatis* and *M. abscessus*) and some enterobacteriaceae (i.e *Salmonella spp*). The ingredients contained in this mix can be toxic for other microorganism as *Pseudomonas spp*.

## General Rules

Please, read carefully MSDS of this product before use.

This product is sold for research purposes. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified, individual experienced, in handling potentially hazardous chemicals.

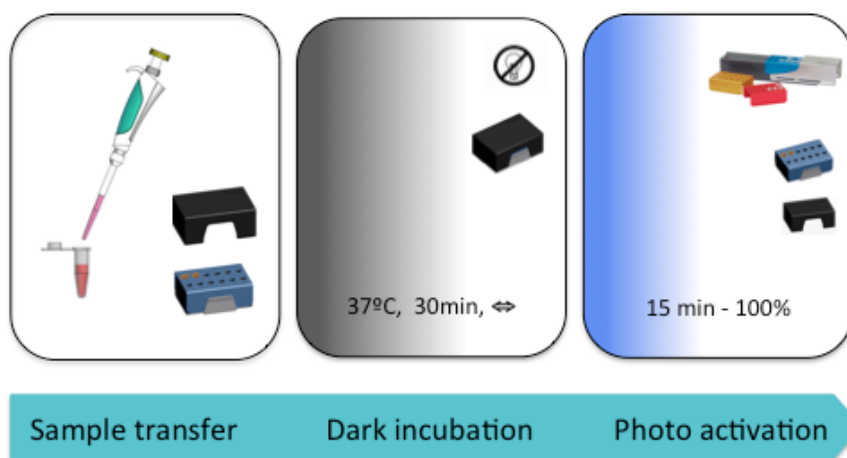
Follow the general procedures of a molecular biology laboratory, especially those aimed at preventing cross-contamination. It is advisable to use micro-pipette tips with filter and the use of gloves and personal

protection. The use of biological safety cabinets is recommended if you believe that your sample handling system can generate aerosols.

GeniUL shall not be held liable for any damage resulting from handling or contact with the above product.

## 2. OPERATING PROCEDURE

For the application of this product as a TBC-Biomarker Kit with Cepheid GenXpert Platform™, using the MTB/Rif kits or equivalent products, see our Doc. Code 450000105.



Step	Action
1	The reagent should be at the bottom of reaction tube. Make a short spin
2	Homogenize the sample ( pretreated with NALC) with the aid of a vortex or micro-pipette
3	Transfer 500 µl of sample to each tube ( blue and white cap ) and mix using the micropipette.
4	Incubate on Darkness, during at least 15-30 min at 37°C
5	<i>Sample photoactivation (PhAST Blue or PAUL System, 100 % 15 min)</i>
6	Proceed with DNA purification using your routine procedures

In our web page you can see a video showing about this application.

Most of commercial kits DNA extraction starting with sample volumes of 200 µl, if you need to work with entire sample volume an additional step of centrifugation and supernatant elimination must be performed.

**NOTE:** If the next step is a PCR detection with Cepheid GenXpert Platform™, using the MTB/Rif kits or equivalent products, at this stage you should add 1,5 mL of Cepheid Sample Reagent and follow the manufacturer instructions.

### 3. FREQUENTLY ASKED QUESTIONS

For additional questions about our products read our Doc code 450000025.

### 4. WARRANTY AND DISCLAIMER OF LIABILITY

GeniUL warrants that this product is free from defects in materials and workmanship through the expiration date printed on the label and only if the following are complied with:

- (1) The product is used according to the guidelines and instructions set
- (2) GeniUL does not warrant its product against any and all defects when: the defect is as a result of material or workmanship not provided by GeniUL; defects caused by misuse or use contrary to the Instructions supplied, or if the product is contaminated by improper handling or storage.
- (3) All warranties of merchantability and fitness for a particular purpose, written, oral, expressed or implied, shall extend only for a period of one year from the date of manufacture. There are no other warranties that extend beyond those described in this document
- (4) GeniUL does not undertake responsibility to any purchaser of its product for any undertaking, Representation or warranty made by any dealers or distributors selling its products beyond those herein expressly expressed unless expressed in writing by an officer of GeniUL.
- (5) GeniUL does not assume responsibility for incidental or consequential damages, including, but not limited to responsibility for loss of use of this product, removal or replacement labor, loss of time, inconvenience, expense for telephone calls, shipping expense, loss or damage to property or loss of revenue, personal injuries or wrongful death.
- (6) GeniUL reserves the right to replace or allow credit for any modules returned under this warranty.

### 5. OTHER INFORMATION

#### **This product has been released for evaluation and research purposes**

Some applications, in which Phenanthridinium can be used, may be covered by patents issued and applicable in the United States, Japan and certain other countries. The use of this product not contains any external license or right for their commercial use.

The use of this product is covered by Licenses, patents or patent pending request belonging to GeniUL. The customers that received this product can use it for research and evaluation purposes without infringing intellectual property rights

It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Users should make independent decisions regarding completeness of the information based on all sources available. GeniUL shall not be held liable for any damage resulting from handling or contact with the above product.

## 6. CONTACT AND SUPPORT

If you have questions or experience problems with this or any other product of GeniUL, please contact our technical support staff (see details in [www.geniul.com](http://www.geniul.com)). Our scientists are committed to provide assistance quickly and effectively. We also would like to you contact us if you have suggestions to improve our product performance or the use of our products in new forms or applications

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