

## User Guide

# Manual Tissue Microarrayer

## Quick Ray<sup>®</sup>



## NOTE

This user guide describes the instruction of Quick-Ray<sup>®</sup>.

Review this user guide to avoid injury and prevent damage to this product or any products connected to it before you use Quick-Ray<sup>®</sup>. To avoid potential hazards, use this product only as specified in this guide.

QuickRay<sup>®</sup> is registered trademarks of Unitma Co., Ltd.

### Contacting us :

#### **UNITMA Co., Ltd.**

3F, Chungmyeong B/D, 224-8, Jamsil-Dong,

Songpa-Ku, Seoul, 138-220, Korea

Tel: +82-2-420-0070

Fax: +82-2-420-9797

<http://www.unitma.com>

E-mail: [unitma@unitma.com](mailto:unitma@unitma.com)

## Tissue Microarray?

Tissue Microarray (TMA) is a technique that enables the tissues from many patients to be arrayed in a single slide. You can compare and analyze the expression of various genes and protein from the tissues. This technique has an advantage because you can analyze the tissues in the same condition to enhance the efficiency of the research.

TMA technique reduces the use of reagent, time and human resources tremendously. Beside increasing throughput, it offers the following benefits ; conservation of tissue resources, improved internal experimental control, reduced consumption of reagents and facilitation of multicenter research studies. TMA also can be applied to almost every tissue processing including immunohistochemistry, in situ hybridization, FISH and in situ PCR.



## Quick-Ray®, Manual Tissue Microarrayer

- Minimized size arrayer comparing with the conventional products
- Portable, easy to carry and to make the array block anytime and anywhere
- Easy to handle. Inexperienced pathologist can handle easily in the lab.
- Simple developing procedure
- Easy to create the various sized block with using disposable bases
- Steel array block and cassette array block are available
- Low cost to purchase

## Quick Ray® SET



- **Quick Ray®**

Weight : 140g

Length : 15.5Cm

- **Tip & Recipient block core size**

Ø 1mm

Ø 2mm

Ø 3mm

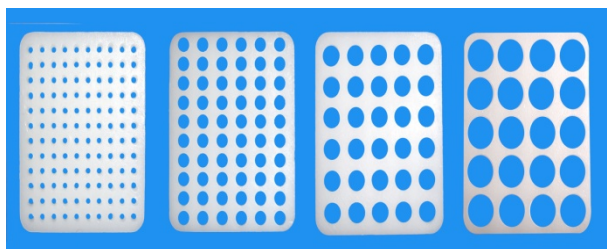
Ø 5mm

Ø 1.5mm(Tip available only for the recipient block constructed with Quick Ray Mold)



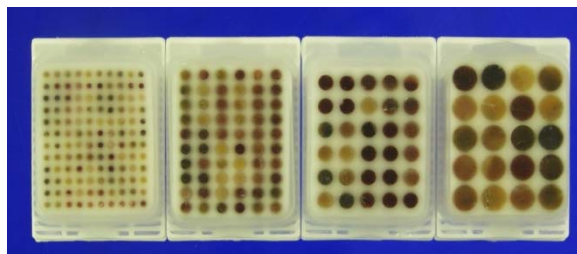
## CONSUMABLES

### •Premade recipient blocks

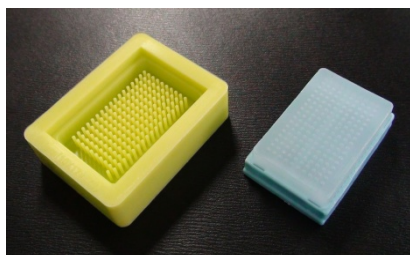


- ∅ 5mm x 20 well
- ∅ 3mm x 30 well
- ∅ 2mm x 60 well
- ∅ 1mm x 120well

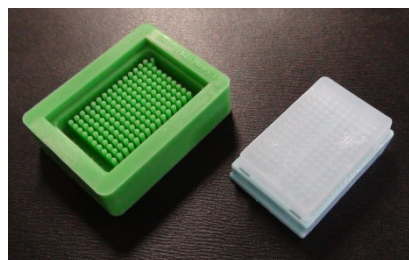
### •Constructed recipient blocks



## Quick-Ray<sup>®</sup> Mold Kit



Core size : 1mm  
170 holes (10 x 17)



Core size : 1.5mm  
150 holes (10 x 15)



Core size : 2mm  
70 holes (7 x 10)



Core size : 3mm  
40 holes (5 x 8)



## PROCEDURE

### • How to construct a recipient block with Quick Ray® Mold Kit

1. Place the Quick Ray® Mold kit in a dry oven for 30 minutes at 70~80°C to warm-up the mold kit.

\* Note : This is strongly recommendable for lengthening durability of the mold kit as well as good quality recipient block.

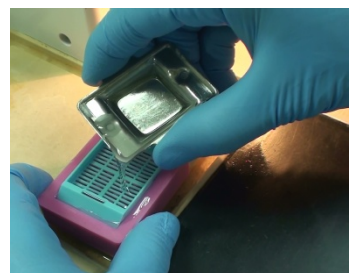
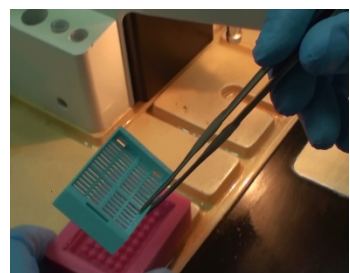
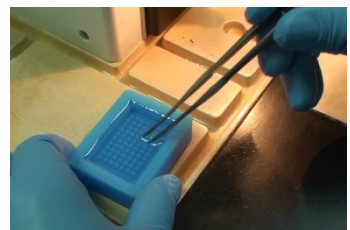
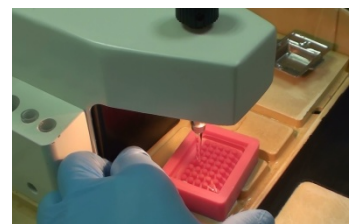
2. Dispense liquid paraffin (60~65°C) slowly into the mold kit until the top of core rods are fully submerged.

A. Paraffin dispense should be done so slowly that no bubbles are to be formulated among the core rods.

B. When some bubbles are formulated, remove them with heated forceps.

3. Place an embedding cassette on the mold kit

4. Dispense enough liquid paraffin into the embedding cassette



5. Solidify the embedding cassette and the mold kit at a normal room temperature or at about 4°C for 30~60 minutes.

If solidified at lower temperature, the block may have cracks in it.



6. Separate the mold kit from the embedding cassette slowly and carefully.



7. Trim paraffin around the periphery of the recipient block.



(Pic. Fully completed recipient blocks)



• **How to array the sample tissues into the recipient block by using Quick Ray®**

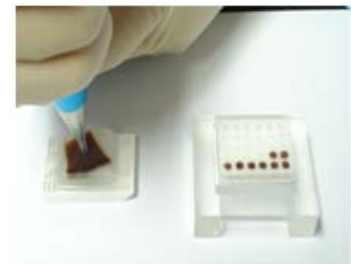
1. Place the reference slide and the donor block on microscope stage for position marking with an oil pen.



2. Extract the marked tissue from the donor block by using the Quick Ray® needle

- 1) Place the donor block on a horizontal and flat table.
- 2) Hold the Quick-Ray® in your hand and tighten your grip.
- 3) Hold the Quick-Ray® needle perpendicular to the marked position of the donor block.
- 4) Insert the Quick-Ray® needle into the donor block at the proper depth of 5mm slowly.

(Don't insert it quickly and too deep to prevent to damage the donor block and the Quick Ray® needle.)

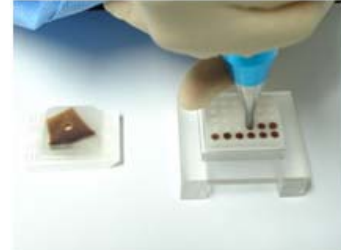


\* Quick Ray® needle's depth: 5mm

\* Incubate the easily breaking donor block in a heating oven or a chamber at 37~40°C for 15 ~ 20 minutes.

3. Deliver the extracted tissue into the corresponding holes of the recipient block that were pre-made by UNITMA, with Quick Ray® needle.

- 1) Place the recipient block on a horizontal and flat table.
- 2) Hold the Quick-Ray™ needle with the extracted tissue perpendicular to the corresponding holes of the recipient block.
- 3) Inject the extracted tissue (core) into the corresponding holes of the recipient block at the proper depth of 4mm by pushing the Quick Ray® plunger slowly.
- 4) Gently push or tap in all tissue cores to ensure evenness for microtomy.



4. Put the recipient block into embedding mold with cutting section faced down and incubate it in oven at 60°C for 30 minutes.(The top side of the recipient block in 'Step 3' will be cutting section.)



5. Take out the recipient block when completely transparent. ⇒ Embedding



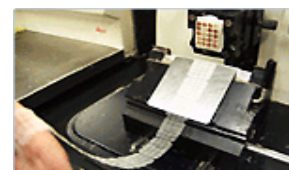
Step 1 for Embedding

Step 2 for Embedding

Step3 for Embedding

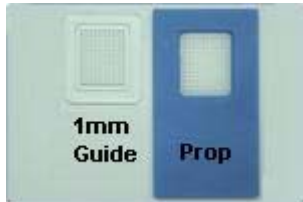
6. Solidify the block in cold plate.

7. Cutting (about 4 μm)



• **How to use the Guide for 1mm recipient block**

1. Put the recipient block into the prop hole at bottom side.



2. Fit the 1mm guide on the prop.
3. Extract the marked tissue from the donor block by using Quick-Ray® needle.



4. With fixing the prop by hand, insert the Quick-Ray® needle into the guide hole, and put the extracted tissue into the recipient block hole by pushing the knob down.
5. Remove the guide and recipient block from the prop.



**Note :**

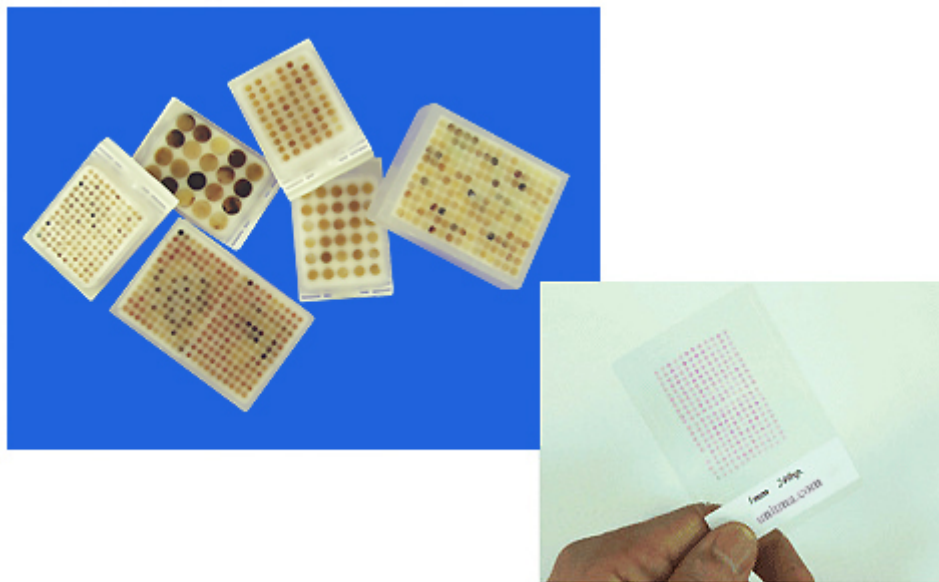
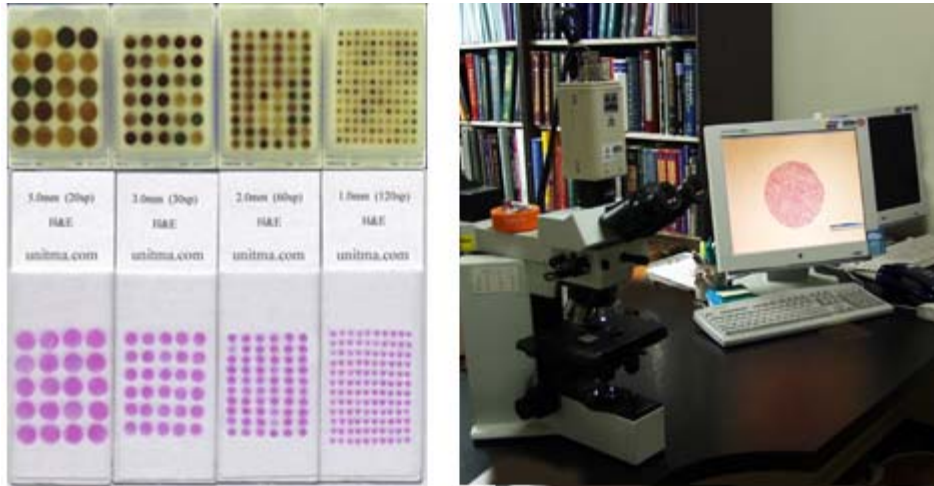
- A. In case of using 2, 3 and 5mm recipient block, insert the extracted tissue directly into the recipient block without the guide by pushing the Quick-Ray® knob down.



- B. The guide cannot be used for recipient blocks produced with Quick Ray® Mold kit due to the size and embedding cassette.



## BLOCK & SLIDE



## ORDER

Product	Cat. No.	Standard Pack
<b>Quick Ray® Set</b>		
Full set with 4 Tips and 4 sized blocks	UT06	1 set
Single set for 1 mm puncher with a guide	UT06T1	1 set
Single set for 2mm puncher	UT06T2	1 set
Single set for 3mm puncher	UT06T3	1 set
Single set for 5mm puncher	UT06T5	1 set
Single set for 1.5mm puncher (*Ref)	UT06T1.5	1 set
<b>Tip</b>		
1mm	UT06-1	1 ea
1.5mm	UT06-1.5	1 ea
2mm	UT06-2	1 ea
3mm	UT06-3	1 ea
5mm	UT06-5	1 ea
Guide for 1mm recipient block	UG06	1 set
<b>Premade recipient block</b>		
1mm (10 x 12 ; 120 wells)	UB06-1	1 ea
2mm (6 x 10 ; 60 wells)	UB06-2	1 ea
3mm (5 x 6 ; 30 wells)	UB06-3	1 ea
5mm (4 x 5 ; 20 wells)	UB06-5	1 ea
<b>Quick Ray® Mold Kit</b>		
1mm (10 x 17 ; 170 wells)	UM01-1	1 ea
1.5mm (10 x 15 ; 150 wells)	UM01-1.5	1 ea
2mm (7x 10 ; 70 wells)	UM01-2	1 ea
3mm (5 x 8 ; 40 wells)	UB01-3	1 ea
Base mold	UBM06	1 ea
Embedding cassette	UC06	500/PK

\* Ref : Manual single set of 1.5mm puncher (UT06T1.5) does not include a sample recipient block because premade recipient block of 1.5mm size is not available.

1.5mm recipient block can be produced only with Quick Ray® Mold Kit (UM01-1.5)

