Manual Tissue Microarrayer
Quick-Ray®

UNITMA

NOTE

This user guide describes the instruction of Quick-Ray.

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

All information is subject to change without prior notice.

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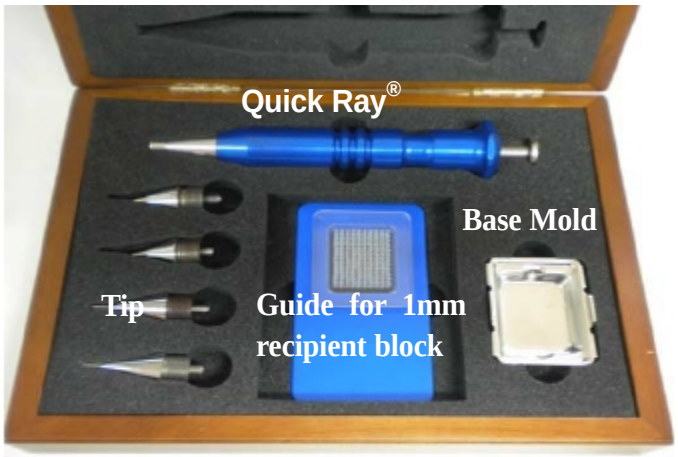
The premade recipient block (UB06) to be supplied by UNITMA Co., Ltd. should be used.
The recipient block (UB06) patented in global is made of special materials that melts when heated at 70°C for 30 minutes and has premade, evenly spaced round wells arranged in a square matrix. Therefore, UNITMA premade recipient block will save the conventional-block building time and guide the pathologists to fully utilize the power of TMAs.

Tissue Microarray (TMA) :
Tissue Microarrays are a collection of multiple tissue cores that are arranged in columns and rows inside a paraffin block allowing for histological analysis. They are a crucial tool in the analysis of gene and protein expression levels in samples from normal and diseased specimens. Further, they are useful in the early-stage discovery of gene targets in genomic research, validating targets, testing and optimization of diagnostic tests, and in the quality control of molecular detection schemes. And the 'Tissue array' technology not only makes decrease the reagent, time and human resource below one sixtieth but also can be applied to most of the know-how about tissues for immunohistochemistry, in situ hybridization, FISH and in situ PCR.

Quick-Ray Manual Tissue Microarrayer

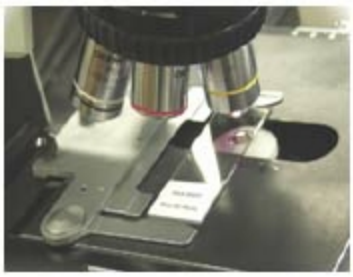
- Portable and easy to handle
- Shortening the TMA work
- Smarter arrayer compared to conventional products
- Easy to carry and to make the array block anytime & anywhere
- Inexperienced pathologist can be easily familiar with the kit
- Simple procedure for creating the blocks
- Easy to create the various sized blocks by using the recipient blocks

Quick-Ray set

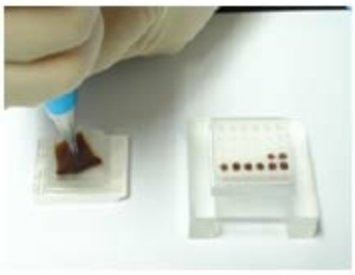


Components for a full set
- **1 puncher**
- **5 premade recipient blocks (1, 1.5, 2, 3, 5mm)**
- **5 puncher tips (1, 1.5, 2, 3, 5 mm)**
- **Guide for the 1mm recipient block**
- **Base mold**
- **Wooden case**
- **User manual**

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

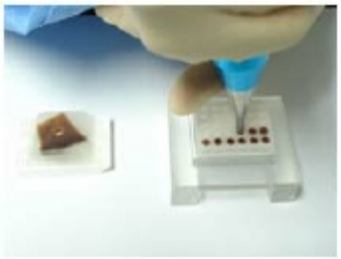


1. Place the reference slide and the donor block on microscope stage for position marking with an oil pen.



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 needle perpendicular to the marked position of the donor block.
   3) 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 damageto 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℃ 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.

4. Put the recipient block into embedding mold with cutting section faced down and incubate it in oven at about 70℃ for 30~60 minutes. (The top side of the recipient block will be cutting section.)

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

6. Solidify the block in cold plate.

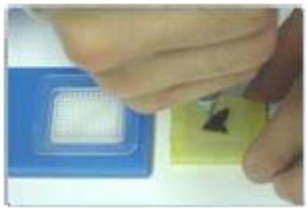
7. Cutting (about 4μm)

• How to use the Guide for 1mm recipient block

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

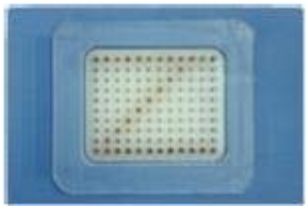
2. Fit the 1mm guide on the prop.

3. Extract the marked tissue from the donor block by using Quick-Ray needle.



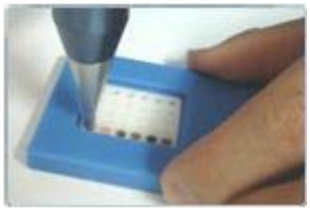
4. With fixing the prop by hand, insert the Quick-Ray needle into the guide hole, and put the extracted tissue into the recipient block hole by pushing the knob down.

5. Remove the guide and recipient block from the prop.



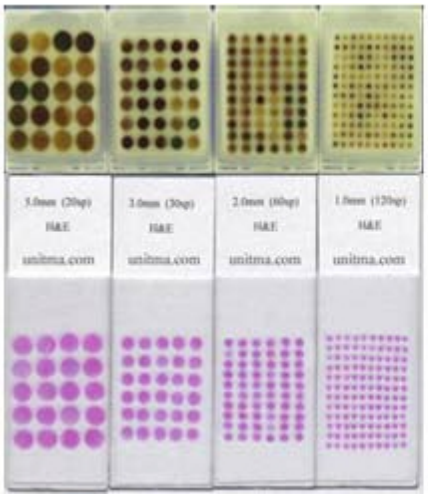
Note :

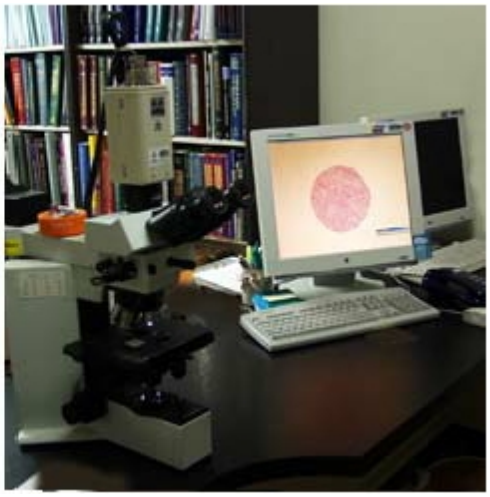
1. In case of using 1.5, 2, 3 and 5mm recipient block, insert the extracted tissue directly into the recipient block without the guide by pushing the Quick-Ray knob down.

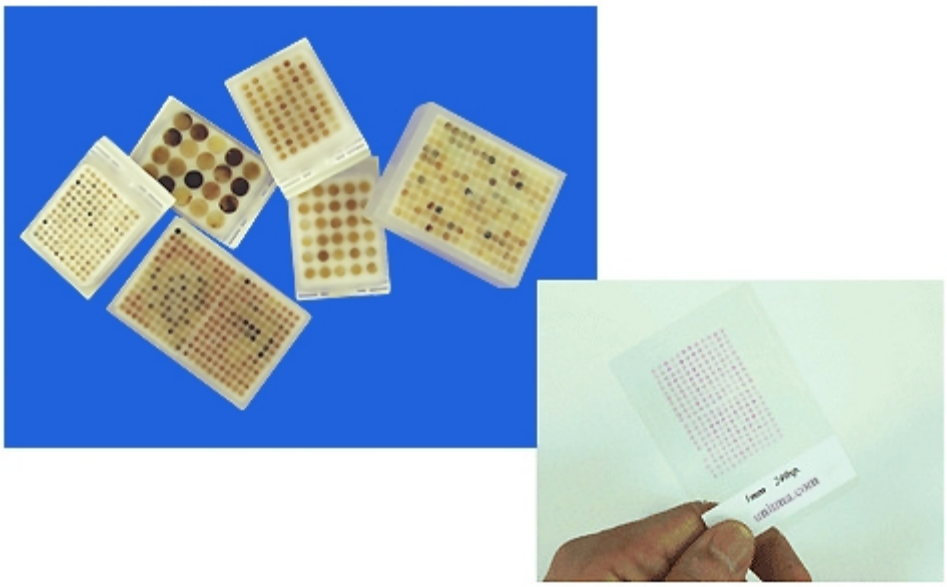


2. The guide cannot be used for recipient blocks produced with Quick-Ray mold kit due to the size and embedding cassette.

BLOCK & SLIDE







Premade recipient block (Consumable)

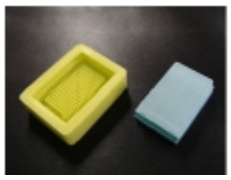
Unitma provides the premade recipient blocks patented in global to save the valuable time and cost in creating the recipient blocks additionally before starting TMA work. The premade recipient block is made of special material which melts when heated at about 70 °C for 30~60minutes. The blocks have evenly spaced round wells arranged in a square matrix which conforms to digital pathology trend.

Specification

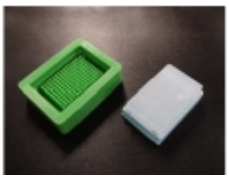
Product name		Premade Recipient Block	
Model Number	Core size	Weight	Number of cores
UB06-10	1.0 mm	3.2g	120 (10 x 12) holes
UB06-15	1.5 mm	2.8g	90 (9 x 10) holes
UB06-20	2.0mm	2.5g	60 (6 x 10) holes
UB06-30	3.0 mm	2.5g	30 (5 x 6) holes
UB06-50	5.0 mm	1.8g	20 (4 x 5) holes
Dimension		24 x 30 x 5.5 mm	
Color and odor		White, odorless	
Physical state and appearance		Solid	
Storage temperature		Room temperature	
Operating temperature		5°C ~35°C	
Composition		Paraffin plus special materials	
Purpose of use		Research purpose only	
Certification		ISO, CE	

Quick-Ray Mold Kit (Consumable)

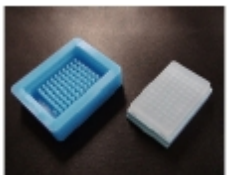
Recipient block mold kit is an alternative solution for the users to prepare the recipient block by themselves.
The recipient block can be used to prosecute TMA works with the manual tissue microarrayer called Quick-Ray.
Furthermore, the researchers can prepare the hundreds of recipient blocks if the mold kits made from the silicon rubber, are stored and handled with a care.



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)

Core size : 5mm
15 holes (3 x 5)

Specification

Product name	Recipient Block Mold Kit	
Model Number	Core size	Number of cores
UM01-10	1.0 mm	170 (10 x 17) holes
UM01-15	1.5 mm	150 (10 x 15) holes
UM01-20	2.0 mm	70 (7 x 10) holes
UM01-30	3.0 mm	40 (5 x 8) holes
UM01-50	5.0 mm	15 (3 x 5) holes
Outside Dimension	38 x 50 x 14 mm	
Inside Dimension	25 x 38 x 5.5 mm	
Weight	22g	
Storage temperature	Room temperature	
Material	Silicon	

Order

Product	Cat. No.	Standard Pack
Quick-Ray set		
Full set of manual tissue microarrayer	UT06	1 set
Single manual TMA set for 1 mm puncher tip with a guide	UT06-T10	1 set
Single manual TMA set for 1.5 mm puncher tip	UT06-T15	1 set
Single manual TMA set for 2.0 mm puncher tip	UT06-T20	1 set
Single manual TMA set for 3.0 mm puncher tip	UT06-T30	1 set
Single manual TMA set for 5.0 mm puncher tip	UT06-T50	1 set
Tip		
MTM puncher tip hole size 1.0mm	UT06-10	1 ea
MTM puncher tip hole size 1.5mm	UT06-15	1 ea
MTM puncher tip hole size 2mm	UT06-20	1 ea
MTM puncher tip hole size 3mm	UT06-30	1 ea
MTM puncher tip hole size 5mm	UT06-50	1 ea
Guide for 1mm recipient block	UG06	1 set
Stainless base mold	UBM06	1ea
Plastic embedding Cassette	UC06	500/PK
Premade recipient block		
1.0mm (10 x 12 ; 120 wells)	UB06-10	1 ea
1.5mm (9 x 10 ; 90 wells)	UB06-15	1 ea
2.0mm (6 x 10 ; 60 wells)	UB06-20	1 ea
3.0mm (5 x 6 ; 30 wells)	UB06-30	1 ea
5.0mm (4 x 5 ; 20 wells)	UB06-50	1 ea
Mold for preparation of the recipient blocks		
1.0mm (10 x 17 ; 170 wells)	UM01-10	1 ea
1.5mm (10 x 15 ; 150 wells)	UM01-15	1 ea
2.0mm (7x 10 ; 70 wells)	UM01-20	1 ea
3.0mm (5 x 8 ; 40 wells)	UM01-30	1 ea
5.0mm (3 x 5 ; 15 wells)	UM01-50	1 ea