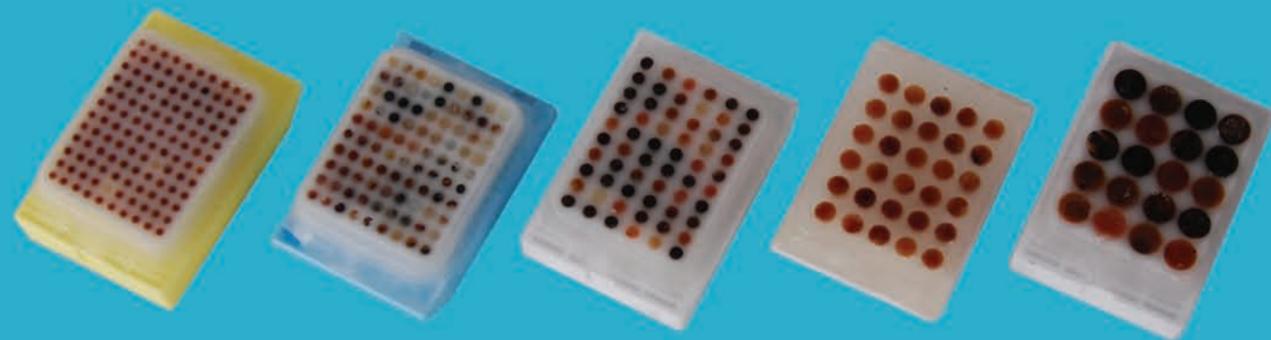


Best Solution for Digital Histology Product Catalogue



- * Premade Recipient Block
- * Manual Tissue Microarrayer
- * Automated Tissue Microarrayers
- * Recipient Block Mold Kit
- * Paraffin Block Trimmer



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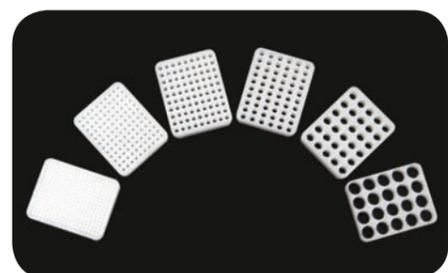
Tissue Microarray (TMA)

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 TMA 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.

TMA advantages

- The use of relatively small tissue cores to be positioned onto a unique slide allows simultaneous histological analysis of hundreds of samples.
- High throughput screening of expression
- Reduction of the number of slides to be mounted and analyzed → Time saving
- Reduction of the amount of reagents and antibodies used → Money saving
- Analysis of various biological specimens under uniform reaction conditions → Increasing the consistency of the results
- Saving of precious biological samples and possibility to re-use donor blocks



Premade Recipient Blocks



Manual Tissue Microarrayer



Automated Tissue Microarrayer UATM-272A



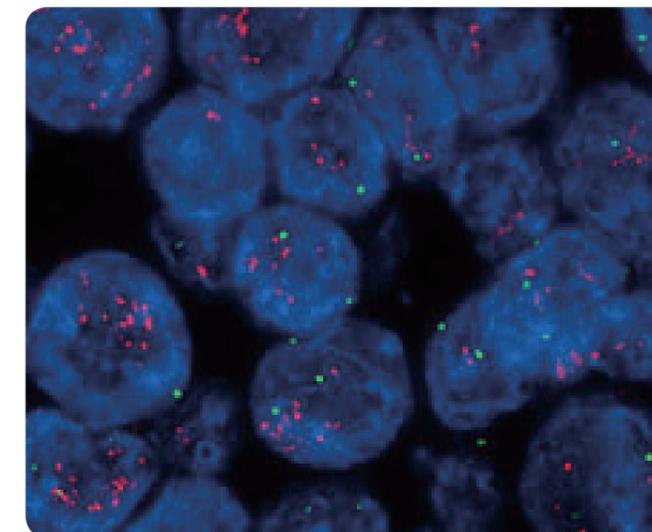
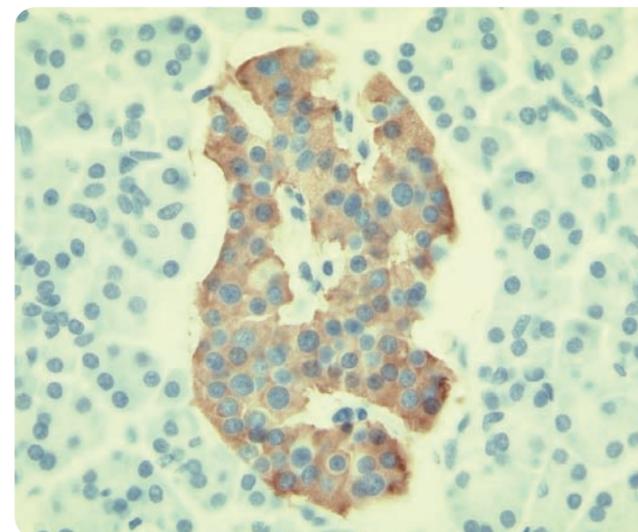
Automated Tissue Microarrayer UATM-272B



Recipient Block Mold Kit



Paraffin Block Trimmer



UNITMA TMA technique

In conventional Tissue Microarray techniques, all the users have to prepare for their recipient blocks by drilling the dummy paraffin blocks manually prior to starting TMA work.

But Unitma developed the premade paraffin recipient blocks for the first time in the world. The premade recipient blocks have the well rounded hole matrix suitable for the digital histologic analysis.

Furthermore, Unitma's premade recipient block brings to save the time and cost in preparation of the desired recipient blocks manually and high throughput with a higher TMA success rate up to 99%.

Based on the core technology, Unitma developed the manual and automated tissue microarrayers and has been supplying the most innovative instruments with the premade recipient blocks to worldwide customers as the best solution for the digital histology. Recently Unitma also launched the automated paraffin block trimmer which can trim the paraffin residues around the paraffin embedded tissue blocks without any damages to the sample tissues and any injuries during the trimming work by the conventional trimming way. This instrument is only a paraffin block trimmer without any competitive instruments in the current world market. Today, Unitma is continuously developing new technologies to change the existing histologic techniques.

Certification

Premade Recipient Block & Recipient Block Builder



Manual Tissue Microarrayer



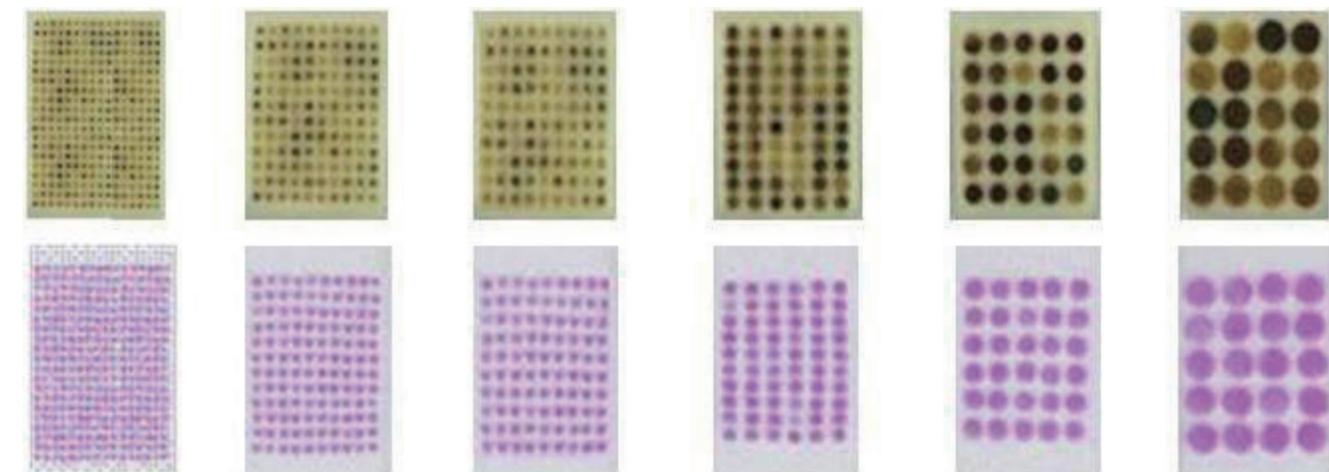
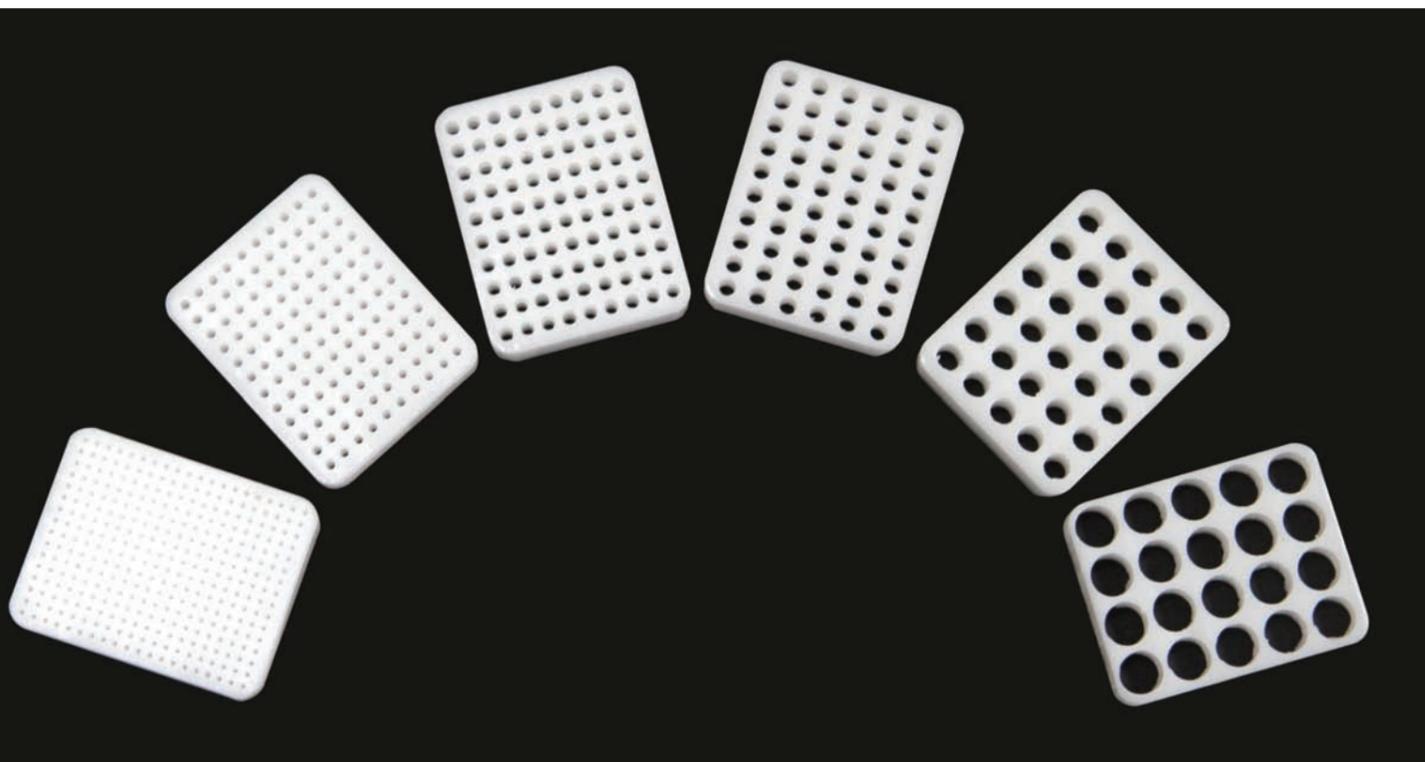
Automated Tissue Microarrayer



Paraffin Block Trimmer

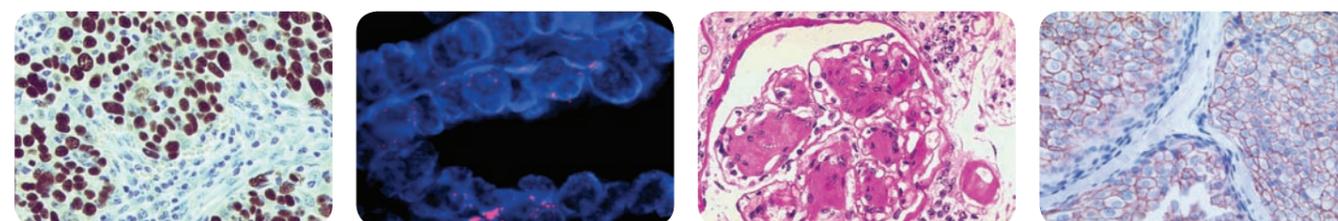


Premade Recipient Blocks



0.5mm(320 holes) 1mm(120 holes) 1.5mm(90 holes) 2mm(60 holes) 3mm(30 holes) 5mm(20 holes)

Application



In Situ Hybridization

FISH

Special stain

Immunohistochemistry

Features

- TMA success rate up to 99%
- Maintains tissue integrity during embedding
- Up to 300 tissue slices per a block
- High durability during microarraying
- Standardized block configuration for the simple image analysis
- Saving the additional time and cost in preparation of recipient blocks
- Well rounded hole matrix suitable for digital pathology
- Ready-to-use paraffin recipient block
- Compact design and versatility
- No dedicated space required for TMA block formation

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.

Currently, six different sized blocks are available 0.5mm (320 holes), 1mm (120 holes), 1.5mm (90 holes), 2mm (60 holes), 3mm (30 holes), 5mm (20 holes)

The blocks of 1, 1.5, 2, 3, 5mm applicable to manual Tissue Microarrayer while the blocks of 0.5, 1, 1.5, 2mm applicable to Automated Tissue Microarrayer (UATM-272B)

Specification

| Product name | Premade Recipient Block | | |
|-------------------------------|---------------------------------|--------|---------------------|
| Model Number | Core size | Weight | Number of cores |
| UB06-0.5 | 0.5 mm | 3.4g | 320 (16 x 20) holes |
| UB06-1 | 1 mm | 3.2g | 120 (10 x 12) holes |
| UB06-1.5 | 1.5 mm | 2.8g | 90 (9 x 10) holes |
| UB06-2 | 2 mm | 2.5g | 60 (6 x 10) holes |
| UB06-3 | 3 mm | 2.5g | 30 (5 x 6) holes |
| UB06-5 | 5 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 | | |

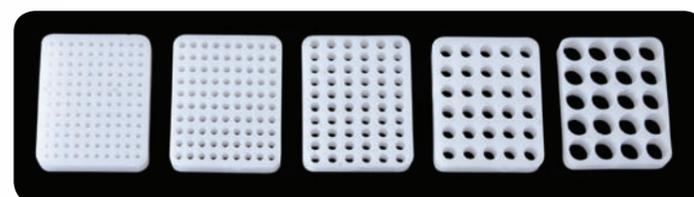


Manual Tissue Microarrayer

Quick Ray



Changeable Tips



Recipient Blocks

The newest technique for superior quality tissue microarrays (TMAs)

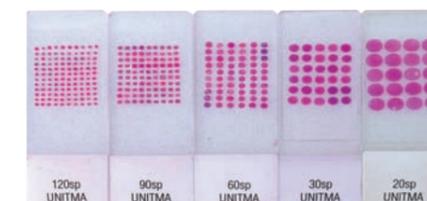
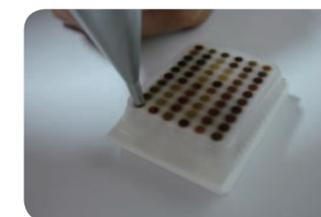
The Quick Ray system represents the newest technique available for producing superior quality Tissue Microarrays (TMAs) in less time than with traditional methods at a fraction of the cost.

The Quick Ray technique produces superior quality TMAs in less time than with traditional methods, and accomplishes finished products at a fraction of the cost. The Quick Ray uses a hollowed tip to remove tissue cores as small as 1mm from paraffin-embedded tissue (donor block). The extracted tissue is then inserted into a preformed recipient block-the Quick Ray System is the only system available that uses a preformed paraffin recipient block.

The finished block is sectioned using a microtome; the sections are mounted on glass slides and then stained. Each TMA block can be cut into 300~400 sections at 4~5μ, which can then be subjected to independent tests. Common tests include immunohistochemistry and fluorescent in situ hybridization. Compact design and versatility make building a Quick Ray TMA astoundingly simple. The construction of a TMA block can be done on any clean counter, and does not require a dedicated space.

Features

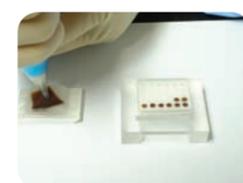
- Portable and easy to handle
- Shortening the TMA work
- Smarter arrayer compared to conventional products
- Easy to carry and to make the array block anytime & anywhere
- Inexperienced pathologist can be easily familiar with the kit
- Simple procedure for creating the blocks
- Easy to create the various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



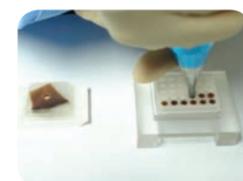
How to build



01 Place the reference slide and the donor block on the microscope stage, and mark the position with an oil pen, where you intend to extract the sample tissue.



02 Extract the marked tissue from the Donor block by Quick Ray



03 Deliver the extracted tissue into the corresponding holes of the recipient block supplied by UNIMTA

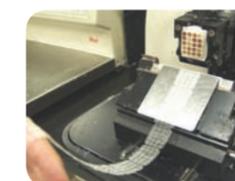


04 Put the completed recipient block into the base mold with the face to be sectioned down and place it in an oven at 70 degrees celsius for 30 to 60 minutes until the block becomes completely transparent, then take it out from the oven.



05 Place an embedding cassette on the top of transparent block and dispense liquid paraffin into the base mold until adequately covering the cassette.

06 Solidify the block in a cold plate

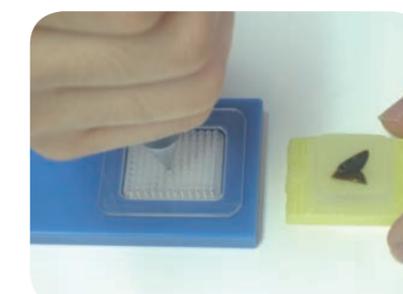


07 Sectioning by a microtome

08 Follow the next steps

Specification

| | |
|---------------------------|---|
| Product name | Manual Tissue Microarrayer (Quick Ray) |
| Model name | UT06 |
| Components for a full set | <ul style="list-style-type: none"> • 1 puncher body • 5 premade recipient blocks (1, 1.5, 2, 3, 5mm) • 5 puncher tips (1, 1.5, 2, 3, 5 mm) • 1 tip guide for the 1mm recipient block • 1 base mold • Wooden case • User manual |
| Dimension | 220 x 163 x 45 (mm) |
| Weight of a full set | 0.83 kg |
| Storage temperature | Room temperature |
| Operating temperature | 5°C ~35°C |
| Purpose of use | Research purpose only |
| Certifications | ISO, CE |



Automated Tissue Microarrayer

Quick Ray Master (Model: UATM-272A)



Quick Ray Master is an automated tissue microarrayer running by the built-in PC. The instrument extracts the sample tissues from the donor blocks and delivers the extracted sample tissues into the correspondent hole of the premade recipient block automatically.

And the researcher can access to the data file for the current TMA work by using the Tissue Array Report Program (TARP) developed by UNITMA.

The researchers can choose one of the 3 rotary type tips simply by using unique UNITMA software. The instrument can be connected to the external devices such as USB, monitors, printers and etc.

The instrument provides economical efficiency in time, quality, and cost of tissue preparation by fully automating tissue microarraying process.

Features

- Analysis of many patient tissue samples simultaneously
- Conserves tumors, biopsies and other precious biological samples
- Conserves antibodies and other expensive reagents
- Improves assay precision through sample and patient multi-plexing
- Applicable to mRNA and protein expression analysis
- Miniaturize and automate immunohistochemistry, in situ hybridization, FISH, and in situ PCR
- High-speed preparation of tissue microarray blocks
- Maintains tissue integrity during embedding
- Up to 300 tissues slices per recipient block
- Standardized block configuration simply image analysis
- Prepare up to 240 tissue cores per hour
- TMA success rate up to 99%
- Tissue array circle time 15secs
- Positional accuracy of 5µm at recipient blocks

Key Facts

Easy to use

- Software based on MS Window XP
- Fully automated operation
- Operation by touch screen
- Automatically changeable punchers
- Compact size with built-in PC, Monitor, Keyboard and Mouse

Productivity

- 10 donor blocks and 2 recipient blocks at one time
- Up to 240 cores of TMA work in an hour

Accuracy

- Exact and detailed movement control over 5 axes(X,Y,Z,P,R)

Expandability

- Access to TMA work data
- Networking with external devices
- Compatible with other application S/W

Completion

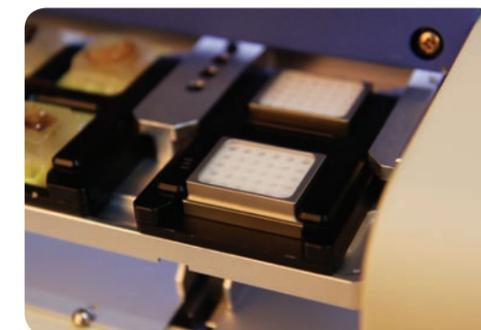
- Automatic data processing for traceability by Tissue Array Report Program(TARP)
- Real time monitoring of TMA work on the monitor

Flexibility

- Operation by Auto or manual mode

Specification

| List | Description |
|-------------------|---|
| Product name | Quick Ray Master (Model : UATM-272A) |
| Instrument type | Automated Tissue Microarrayer |
| Punch type | Rotary puncher(1mm, 2mm, 3mm) |
| Power supply | 100 to 120 VAC, 200 to 240 VAC / 50~60Hz |
| Space required | 953 x 703 x 610mm (W x D x H) |
| Weight | 148kg |
| Stage capacity | 10 donor blocks and 2 recipient blocks |
| Speed | 1 cycle time : 15 seconds (Pick & Place) |
| Monitor | LCD monitor 15"(1024x768) with a touch screen |
| Camera resolution | Camera 1 : 1280 x 1024, Camera 2 : 2,592 x 1,944 (pixels) |
| Operating system | Unique UNITMA S/W by MS Window XP |
| Recipient block | Premade recipient block to be supplied by UNITMA |
| Certifications | ISO, CE, FCC, UL |



Automated Tissue Microarrayer

Quick Ray Master (Model: UATM-272B)



Features

- Analysis of many patient tissue samples simultaneously
- Conserves tumors, biopsies and other precious biological samples
- Conserves antibodies and other expensive reagents
- Improves array precision through sample and patient multi-plexing
- Applicable to mRNA and protein expression analysis
- Miniaturize and automate immunohistochemistry, in situ hybridization, FISH, and in situ PCR
- High-speed preparation of tissue microarray blocks
- Maintains tissue integrity during embedding
- Up to 300 tissues slices per recipient block
- Standardized block configuration simply image analysis
- Prepare up to 240 tissue cores per hour
- TMA success rate up to 99%
- Tissue preparation cycle time of 15secs
- Positional accuracy of 5 µm at recipient blocks
- Automatic calibration

Quick Ray Master is an automated tissue microarrayer running by simply connecting to user's computer through USB port. The system extracts the sample tissues from the donor blocks and delivers the extracted sample tissues into the correspondent hole of the premade recipient block automatically. And the researcher can access the data file for the current TMA work by using the Tissue Array Report Program (TARP) developed by UNITMA.

The 4 different sized tips are manually changeable to associate with the desired core size of the recipient blocks: 0.5mm(320 holes), 1mm(120 holes), 1.5mm(90 holes), 2mm(60 holes). UATM-272B is smarter instrument compared to UATM-272A, and is designed for the users to be easily familiar with.

The instrument provides economical efficiency in time, quality, and cost of tissue preparation by fully automating tissue microarraying process.

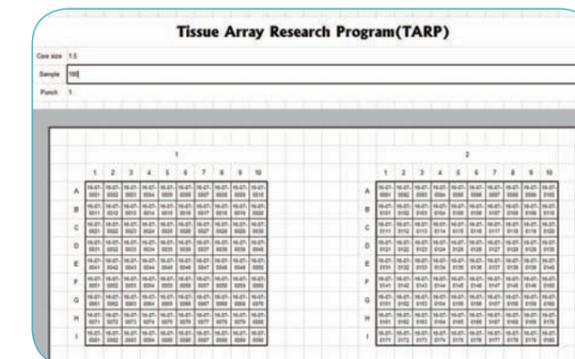
Key Facts

1. A very short time for preparation to operate the instrument
A user is not required to prepare the recipient blocks before starting the instrument since Unitma provide the premade recipient blocks.
2. Premade recipient blocks
The 4 types of premade recipient block are applicable
 - 0.5mm-320 holes (16x20) – World's smallest hole size
 - 1mm-120 holes (10x12)
 - 1.5mm-90 holes(9x10)
 - 2mm-60 holes(6x10)
3. Powerful tip modules
The vacuum suctioning tips can extract the sample tissue from the marked area on the donor blocks by detecting with a high resolution camera, and insert the extracted sample tissue into the correspondent hole of the premade recipient block by detecting the center of the hole with the other high resolution camera.
4. The embedded unique S/W
The Unitma's S/W controls the most functions of Quick Ray Master fully automatically.
5. Auto calibration and accurate movement of 4 axis to control the punchers automatically.
6. Auto or Manual operation by user's option
7. Networking with the external devices and compatible with other application S/W
8. Real time monitoring the current TMA work on the monitor
9. High productivity up to 240 holes per hour
10. Not needed the measurement of the donor block height
11. Smarter and easier User Interface to run the instrument.
12. Easy TMA data management by Excel data sheet

Specification

| | |
|-----------------------|--|
| Product name | Quick Ray Master (Model : UATM-272B) |
| Instrument type | Automated Tissue Microarrayer |
| Tip type | Changeable Tips (0.5mm, 1mm, 1.5mm, 2mm) |
| Power supply | 220 VAC, 50/60Hz |
| Dimension (W x D x H) | 750 x 600 x 600 (mm) |
| Weight | 80kg |

TARP file

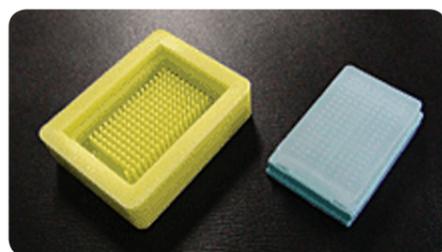


| | |
|-------------------|--|
| Capacity | 10 donor blocks and 2 recipient blocks |
| Speed | 1 cycle time : 10 seconds |
| Camera resolution | 2,592 x 1944 (pixels) |
| Operating system | Unique UNITMA S/W by Window 7 |
| Recipient block | Unitma's premade recipient blocks |
| Certifications | ISO, CE, FCC, UL |

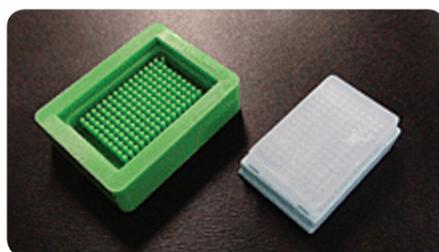
Recipient Block Mold Kit



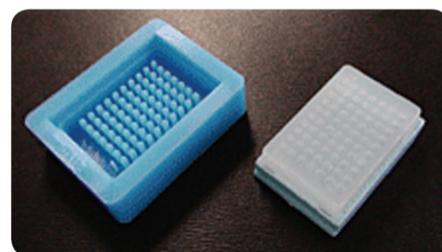
Recipient block mold kit is an alternative solution for the users to prepare the recipient block by themselves. The recipient block can be used to excise TMA works with the manual tissue microarrayer called Quick Ray. Furthermore, the researchers can prepare the hundreds of recipient blocks from a mold kit. For those who concerns over the price of premade recipient blocks, Quick-Ray Mold Kit is an alternative solution. Made from silicon rubber, Quick-Ray Mold kit allows users to build paraffin recipient blocks by themselves at a lower cost. The core sizes of each mold is perfectly match with punchers of Quick-Ray. If stored and handed with care, hundreds of paraffin recipient blocks can be produced by the Quick-Ray Mold Kit. But this recipient blocks can be applicable only for the manual tissue microarrayer.



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



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



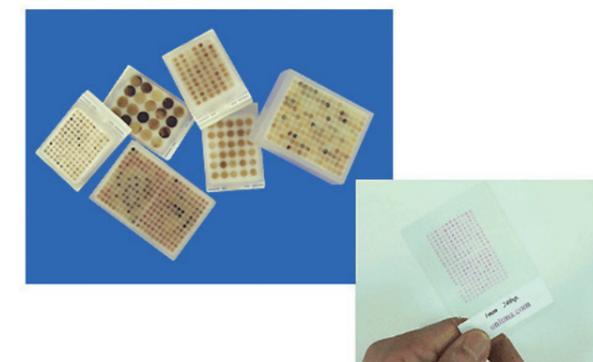
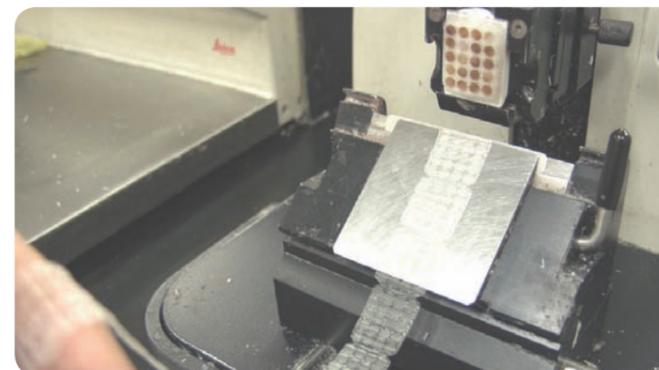
Core size : 2mm / 70 holes (7 x 10)



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



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



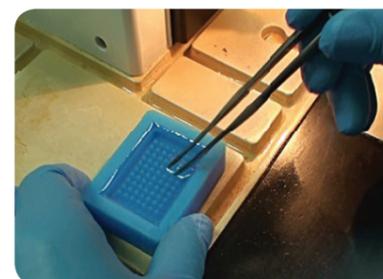
How to build



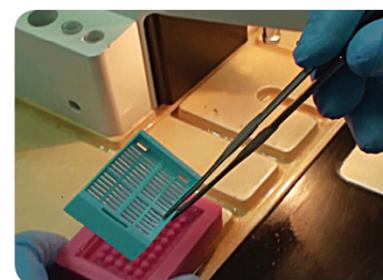
01 Place the Recipient block Mold kit in a dry oven for 30 minutes at 70~80°C to warm-up the mold kit.



02 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.



03 Place an embedding cassette on the mold kit.



04 Dispense enough liquid paraffin into the embedding cassette



05 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 the lower temperature, the block may have cracks in it.



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



07 Trim paraffin around the periphery of the recipient block.

Paraffin Block Trimmer

Quick Trim [UPBT-1011]



Features

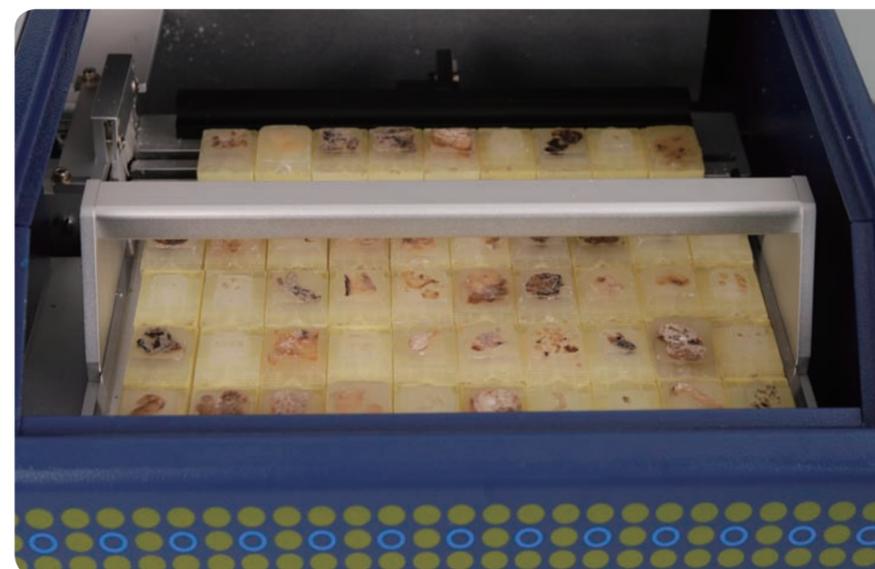
- Save labor time of researchers
- Protect researchers from any physical damages which may be caused by conventional trimming tools.
- Max. 750 paraffin blocks can be trimmed in an hour.
- Semipermanant life time of trimming modules
- Accept the various kinds of the embedded blocks.
- 50 blocks can be trimmed at one time and continue trimming by replacing the array plate with a new one.
- The trimmed blocks are arrayed in order at the array plate.

The Paraffin Block Trimmer (generally called Wax Trimmer, Paraffin Trimmer, Wax Remover, Paraffin Remover, Dewaxer, etc) is one of the histology equipments used for the histopathology. The Paraffin Block Trimmer enables the researchers to trim the paraffin blocks automatically.

This instrument removes only paraffin residues around the paraffin blocks without damage to the tissue samples or the plastic cassette.

When users load the paraffin blocks on the inlet of the instrument after the embedding process, the blocks move into the trimming module to trim the paraffin residues and the trimmed blocks are arrayed by 50 blocks in order in the array plate.

Eventually, this instrument also enables to reduce the manually trimming time and to prevent the users from any injuries caused by the conventional trimming tools.



Paraffin block before trimming



Paraffin block after trimming

Specification

| List | Description |
|--|-----------------------------|
| Power supply voltages | 110 VAC / 220 VAC, 50/60 Hz |
| Weight (net) | 47kg |
| Max Size (W x D x H) | 580 x 477 x 280 mm |
| Operating temperature range | Room temperature |
| Relative humidity | Max. 80% non-condensing |
| Humidity during transportation/storage | < 80% |
| Trimming capacity | Max. 750 blocks per hour |
| Operating environment | Indoor use only |
| Certification / Approval | ISO / CE / FCC |

