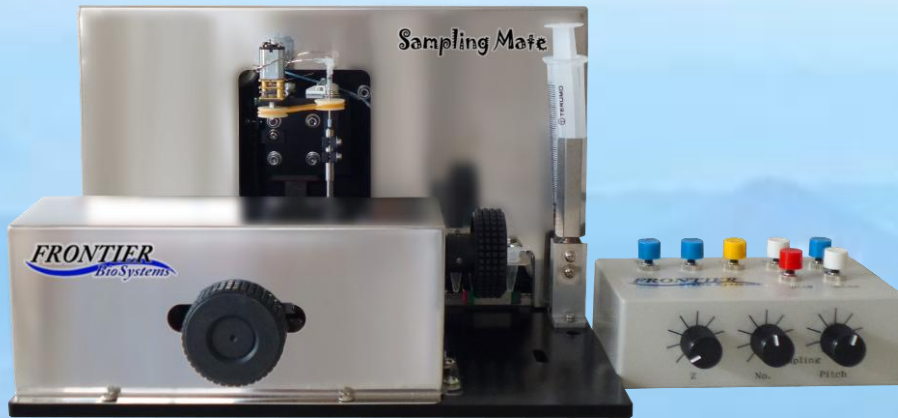


Micro-Biopsy System

Sampling Mate



Sampling Mate is an automated microdissection collection system. It can be configured on any inverted microscope. It can automatically collect up to 8 microdissections from various tissue positions manually selected or along one over observing the microscope images. The collected microdissections can be used for analyzing site specific gene and protein expressions to understand the biological characteristics of specimens.

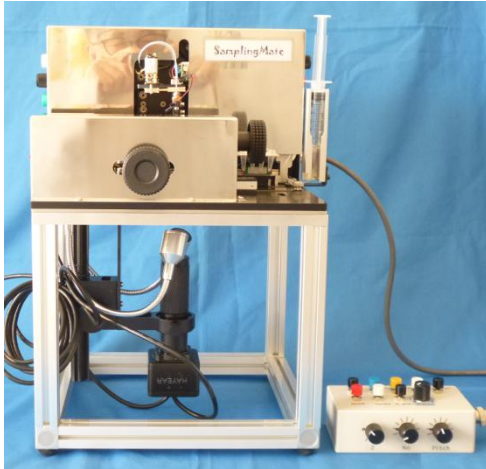
Specifications

- Sampling Mate includes a mechanical unit having four actuators, a control unit, a digital microscope unit, and a computer(option).
- Microdissections are automatically collected from positions selected manually in a microscope image or along a line with a determined interval. They are automatically recovered in collection tubes.
- The collection is carried out repeatedly in a short time by using a rotating hollow punching needle with spring action. The needle is washed automatically before every punching.
- Collection speed 20 sec/collection
- Position accuracy : 0.015mm
- Weight: 9.4kg (including digital microscope unit)
- Size(HxWxDmm) : 380x300x230 (placed on digital microscope unit)

Applications

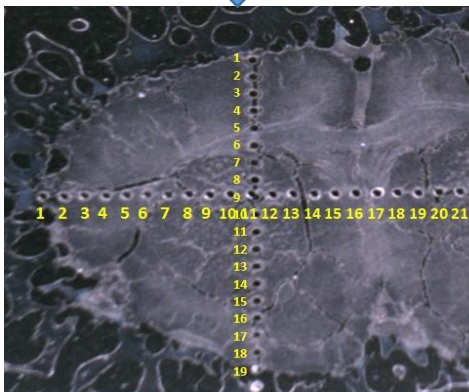
Site specific gene expression analysis of mouse brain

Specimen: frozen mouse brain slice



Sampling Mate mounted on a digital microscope

Punching needle: 0.12mm
Collecting pitch : 0.3mm
Collecting way; along X

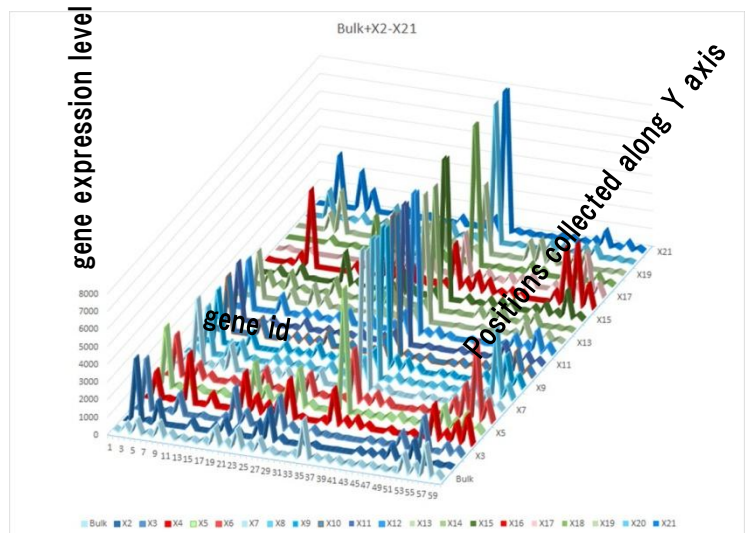


mRNA extraction from microdissections for producing cDNAs

Gene expression analysis by whole mRNA sequencing

Microscope image of sliced mouse brain after collecting microdissections

Gene expression levels change with collecting positions. Sometimes the site specific change is very large for some genes even if the collecting places are only 0.3mm apart. The changes give the important information on the fine structure as well as the condition of the specimen.



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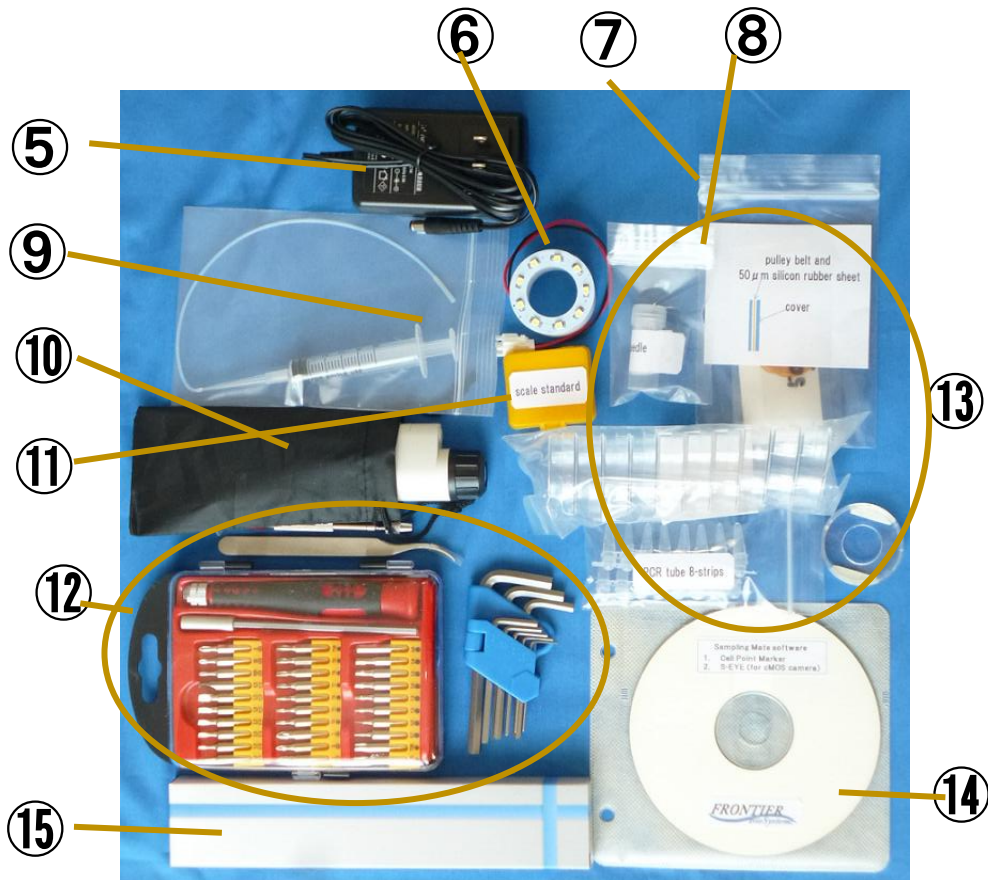
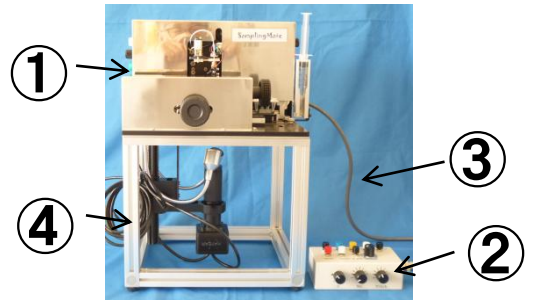
Hachioji Tokyo, Japan

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Website: www.frontierbiosystems.com

Photos of Parts

1. Device main body
2. Hand held controller
3. Connection cable
4. Digital microscope unit
5. 12V power supply
6. LED ring light
7. Hollow punching needle(10)
8. Cleaning wire(5)
9. Injector for cleaning main shaft pipe
10. Handy microscope
11. Scale standard
12. Tools (tweezers, pin vise, driver set, wrench set)
13. Parts (pulley belt, 50 μ m silicon rubber sheet, silicon tube, dish, dish with pawl, PCR tube 8-strips)
14. Software CD
15. Handy light and ball point pen
16. User manual



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