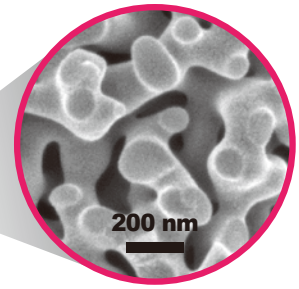
# AGC spin column for Exosome Isolation

**Easy and Fast protocol** >> ☑ **Check Protocols**

**High yield of RNA** >> ☑ **Check Recovery amount**




[SEM image]

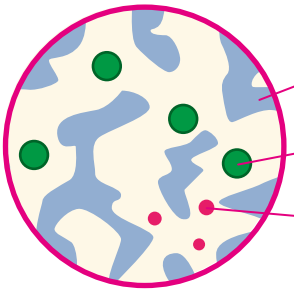
## Key technology

### Porous Glass

- 3D-dimensional network
- Sharp pore size distribution
- Low protein attachment

## Capture mechanism

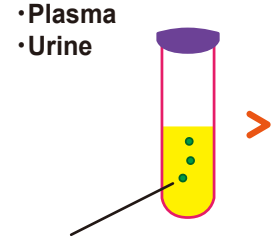
**Chromatgraphy :**
**Exosome remains in porous glass structure (3D-dimensional network)**




## Protocols

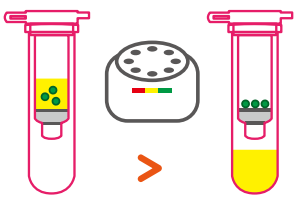
| Sample | Isolation | Extraction | Analysis |
|---|---|---|---|

- Culture medium
- Serum
- Plasma
- Urine



Exosome

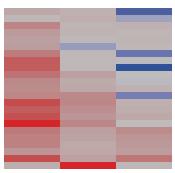
Pretreatment
(0.22um filter)

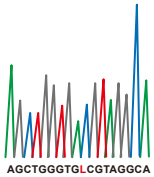


centrifugation

**10** mim / 6000g

miRNA
DNA






Microarray
qPCR, NGS

# Exosome capture images

Exosomes were collected from cell culture supernatant of HpG2 cells by AGC spin column.
They were observed by SEM.

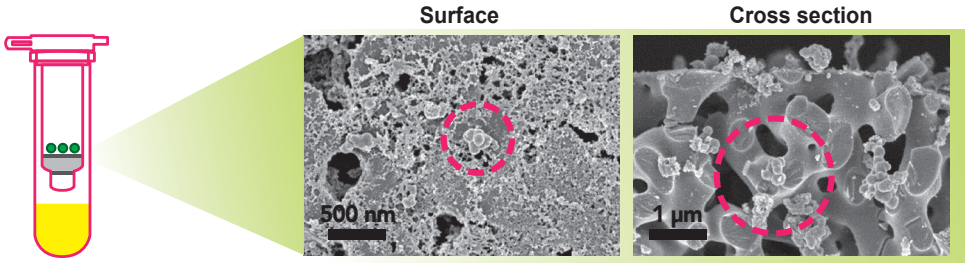



Fig.1 SEM images of captured exosome on/in the glass filter.

# Recovery amount of total RNA by Bioanalyzer.

Exosomes were isolated from serum by AGC spin column, ultracentrifugation, antibody beads and polymer precipitation. The recovery amount of total RNA was analyzed by Bioanalyzer.

1. Serum → 2.Exosome isolation → 3.RNA extraction → 4.Bioanalyzer

| AGC | UC | Antibody beads | Polymer precipitation |
|---|---|---|---|
| 736 pg/uL | 32 pg/uL | 24 pg/uL | 336 pg/uL |

# Coverage of RNA species by Microarray

Exosomes were isolated from serum by AGC spin column, ultracentrifugation, antibody beads and polymer precipitation.
The coverage of RNA species and the intensity were analyzed by Microarray.

1. Serum → 2.Exosome isolation → 3.RNA extraction → 4.Microarray

## Coverage of RNA species

| AGC | UC | Antibody beads | Polymer precipitation |
|---|---|---|---|
| 435 | 354 | 355 | 226 |

- AGC > UC = Antibody beads > Polymer precipitation
- **UC and AGC had the most mutual overlap comparing with competitors.**

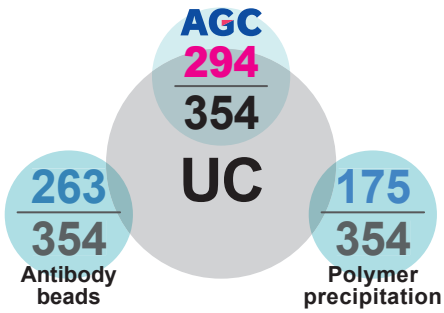



Fig.2 Venn diagram expresses how many miRNA species of UC expression were covered by kits.

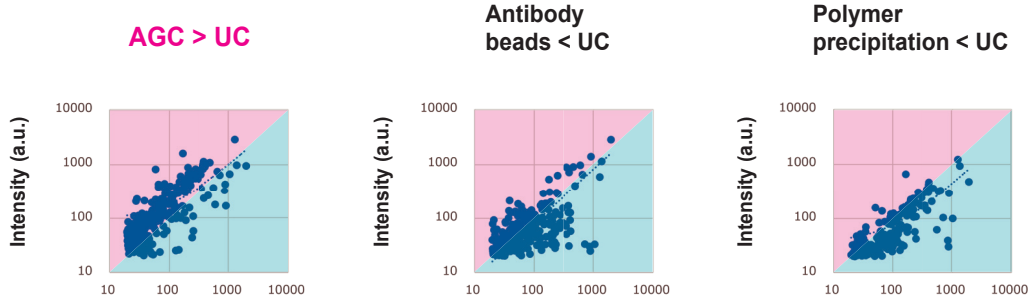



Fig.3 Scatterplot of intensities of miRNAs extracted from the collected exosomes on each kit(pink) versus ultracentrifuged exosomes(blue). The boundary between pink and blue represents the same level of miRNA expression for the two approaches.

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