

## Supplementary Information

### **Gene knockdown in HaCaT cells by small interfering RNAs entrapped in grapefruit-derived extracellular vesicles using a microfluidic device**

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Table S1. Pressure of A and B conditions decided using central composite design.

| Conditions | Pressure A<br>(hPa) | Pressure B<br>(hPa) |
|------------|---------------------|---------------------|
| 1          | 600                 | 600                 |
| 2          | 585                 | 635                 |
| 3          | 550                 | 650                 |
| 4          | 515                 | 635                 |
| 5          | 500                 | 600                 |
| 6          | 515                 | 565                 |
| 7          | 550                 | 550                 |
| 8          | 585                 | 565                 |
| 9, 10      | 550                 | 600                 |

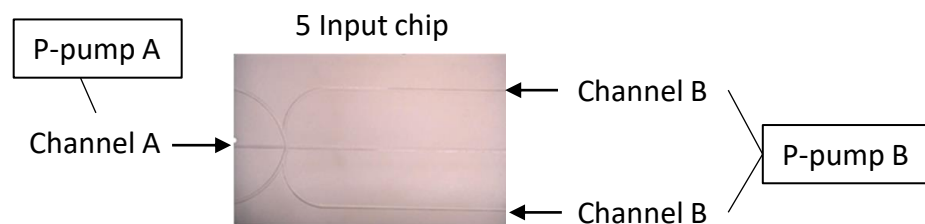


Figure S1. Microfluidics system used in this study.

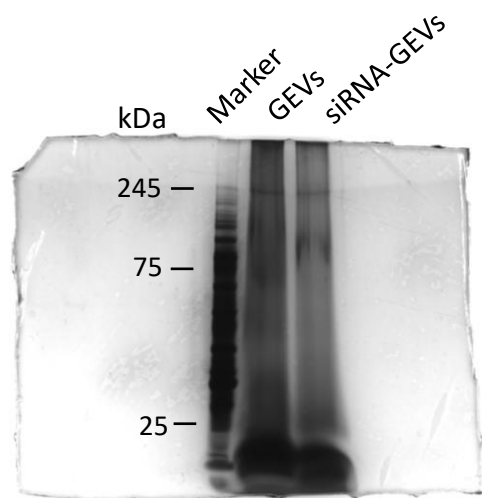


Figure S2. SDS-PAGE image of proteins from GEVs and siRNA-GEVs.

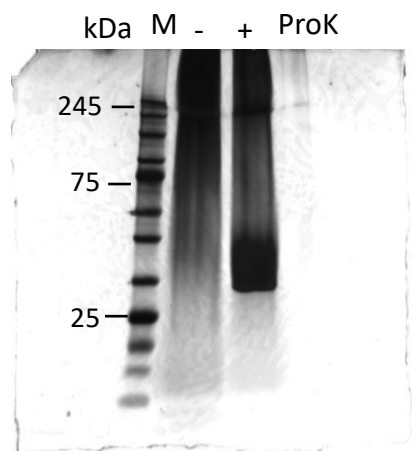


Figure S3. Original SDS-PAGE image of Figure 7a.