

Materials List for:

Reconstitution of Basic Mitotic Spindles in Spherical Emulsion Droplets

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Materials

| Name | Company | Catalog Number | Comments |
|---|----------------------------|---------------------------------|--|
| 1. Preparation of microfluidic chips | | | |
| Photomask (Photomask on film substrate) | Selba S.A. Switzerland | | |
| SU-8 3025 | MicroChem | | |
| Silicon wafer (4 inch silicon wafer p/Boron <1-0-0>10-20 Ω-cm, 500-550 μm, SSP, with 2 flats) | WRS Materials | 4P0SSP-005 | |
| Spin coater | Polos | SPIN150I | |
| PDMS pre-polymer RVT615 A+B | Lubribond | 9481 | |
| Corona treater | Electro-technic products | BD-20ACV | |
| 2. Microfluidic setup | | | |
| Name | Company | Catalog Number | Comments |
| DOPS (1,2-Dioleoyl-sn-glycero-3-phospho-L-serine) | Avanti Polar Lipids | 840035 | |
| Biotinyl PE (1,2-Dipalmitoyl-sn-glycero-3-phosphoethanolamine-N-(biotinyl)) | Avanti Polar Lipids | 870285 | |
| Chloroform | Sigma-Aldrich | 650498 | |
| Glass pipets | | | |
| Glass tubes | | | |
| Vacuum pump | Laboport | KNF | |
| Vacuum chamber | Kartell | Polypropylene Vacuum Desiccator | |
| Mineral oil | Sigma-Aldrich | M5904 | |
| Surfactant (Span80) | Sigma-Aldrich | 85548 | |
| Sonicator | Branson | M2800H | |
| Coverslips | | | 24 mm x 60 mm, thickness 1.5 |
| Glass-slides | | | 26 mm x 76 mm |
| Puncher | Harris Uni-Core | 135840/135841/135843 | |
| Laboratory sealing film | Parafilm | | |
| Valap (Vaseline, lanolin, paraffin wax melted at equal concentrations) | | | Home made |
| Brightfield Microscope | Leica | PMIRB | Any inverted brightfield would suffice |
| Pressure controller | Fluigent | MFCS-FLEX-4C-1000 | |
| PEEK Tubing | Cluzeau Info. Labo, France | | |
| Microfluidics vials (Tubes Micrew 0.5 ml and 1 ml) | VWR, The Netherlands | | |

| 3. Reconstituting spindle formation and positioning | | | |
|---|-------------------|-----------------------|-----------------|
| Name | Company | Catalog Number | Comments |
| Dextran-647 nm (Dextran, Alexa Fluor 647, 10,000 MW, Anionic, Fixable) | Life Technologies | | |
| Tween-20 | Sigma-Aldrich | | |
| BSA - Bovine serum albumin | Sigma-Aldrich | | |
| Glucose (D-(+)-Glucose) | Sigma-Aldrich | G8270 | |
| Glucose-oxidase (Glucose oxidase from Aspergillus niger) | Sigma-Aldrich | G6125 | |
| DTT (DL-dithiothreitol) | Sigma-Aldrich | 646563 | |
| Catalase (Catalase from bovine liver) | Sigma-Aldrich | C9322 | |
| Tubulin (Tubulin from bovine brain) | Cytoskeleton Inc. | | |
| Tubulin-488/561 (HiLyte-488/Rhodamine-labeled tubulin from porcine brain) | Cytoskeleton Inc. | | |
| GTP (Guanosine-'5'-triphosphate, sodium salt hydrate) | Sigma-Aldrich | 51120 | |
| κ-casein (κ-casein from bovine serum milk) | Sigma-Aldrich | C0406 | |
| Airfuge (Air-driven ultracentrifuge) | Beckman-Coulter | CLS | |
| 4. Introducing spindle-assembly factors | | | |
| Name | Company | Catalog Number | Comments |
| Neutravidin | Sigma-Aldrich | A2666 | |
| ATP (Adenosine-'5'-triphosphate, disodium salt hydrate) | Sigma-Aldrich | A9187 | |
| PEP (Phospho(enol)pyruvic acid monosodium salt hydrate ≥97% (enzymatic)) | Sigma-Aldrich | P0564 | |
| PK/LDH -(Pyruvate kinase/lactic dehydrogenase enzymes from rabbit muscle) | Sigma-Aldrich | P0294 | |