

Materials List for:

Generation and Grafting of Tissue-engineered Vessels in a Mouse Model

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Materials

| Name | Company | Catalog Number | Comments |
|----------------------------------------------------------------|--------------------------------|----------------|-----------------------------------------------|
| Human Fibroblasts CCL-153 | ATCC | CCL-153 | Prenatal human embryonic fibroblasts |
| ATCC F-12K Medium (Kaighn's Modification of Ham's F-12 Medium) | ATCC | 30-2004 | |
| Fetal Bovine Serum | ATCC | 30-2020 | |
| Knockout DMEM medium optimized for embryonic stem cells | Life technologies (Gibco) | 12660-012 | |
| Knockout Serum Replacement | Life technologies (Invitrogen) | 10828-028 | |
| Human Basic FGF-2 | Miltenyi Biotech | 130-093-837 | |
| alpha-MEM medium | Life technologies (Invitrogen) | 32571093 | |
| Human PDGF | R&D System | 120-HD-001 | |
| Gelatin Solution 2% | Sigma | G1393 | |
| Plasmid 20866: pCAG2LMKOSimO (SOX2, OCT4, KLF4, C-MYC) | Addgene | 20866 | |
| PvuI Restriction Enzyme | New England Biolabs | RO150S | |
| SureClean Plus | Bioline | BIO-37047 | |
| Nucleofection Kit (NHDF Kit) | LONZA | VPD-1001 | |
| Neomycin | SIGMA | G418 | |
| KL 1500 LCD, Illumination for Stereo Microscopy | SCHOTT | KL 1500 LCD | Cold light illumination for stereo microscopy |
| Nikon Zoom Stereomicroscope SMZ800 | Nikon | SMZ800 | |
| Heparin sodium salt | Sigma | H3393 | |
| 10% SDS Stock Solution Molecular Biology Reagent | Severn Biotech | CAS 151-21-3 | |
| Dulbecco's Phosphate Buffered Saline | Sigma | D8537 | |
| Matrigel (10mg/ml) | BD | A6661 | |
| Shaker IKA Vibrax with Shaking platform VX 7 | Jepson Bolton's, Janke&Kunkel | S32-102 | |
| Masterflex L/S Digital Pump Drive | Cole-Parmer | WZ-07523-80 | |
| Masterflex L/S 6-channel, 6-roller cartridge pump head | Cole-Parmer | EW-07519-15 | |
| Masterflex L/S large cartridges for pump head | Cole-Parmer | EW-07519-75 | |
| Masterflex platinum-cured silicone pump tubing, L/S 14, 25 ft | Cole-Parmer | WZ-96410-14 | Tubing goes through the peristaltic pump |

| | | | |
|---------------------------------------------------|----------------|-----------------|-----------------------------------------------------------------------------------------|
| 0.5mm ID, 0.8 mm OD Silicone Tubing | SILEX | N/A | Tubings connect incubation chamber, media reservoir and compliance chamber |
| Fitting Reducer 0.5 to 1.6, natural Polypropylene | Ibidi | 10829 | Adapter connect above two types of tubings |
| 1/32" Tubing, ID 0.01" (250µm) Material: PEEK | LabSmith | T-132-010P | Tubing through the incubation chamber wall which connects the graft with outside tubing |
| One-Piece Fittings | LabSmith | T-132-100 | Fix the above tubings through the incubation chamber wall |
| Nylon tubes (OD 0.9mm, ID 0.75mm) | Smiths Medical | N/A | Tubings insert into two ends of the aorta graft |
| NOD.CB17-Prkdc ^{scid} /NcrCrl mouse | Charles River | | |
| Surgical sutures, 8-0 silk | ETHICON | W819 | |
| Hypnorm | Vetapharm | Vm21757/4000 | Neuroleptanalgesic for use in mice |
| Hypnovel (Midazolam) | Roche | 59467-70-8 | Induction of anaesthesia |
| Dissecting microscope | Carl Zeiss | Stemi 2000 | |
| Nylon Tubing | Portex LTD | 800/200/100/200 | 0.65 mm in diameter and 1 mm in length; to make artery cuff |
| Electrocoagulator | Martin | SN 54.131 | Ligation of artery branches on aorta |
| Bipolar micro hemostat forceps | Martin | 80-91-12-04 | Fixation of vessel ends |
| Vessel Dilator | S&T | JFX-7 | |
| Vessel Dilator | S&T | JFL-3dZ | |
| Vessel Dilator | S&T | D-5aZ | |
| Mini applier | AESULAP | FE572K | |
| Micro hemostats clips | AESULAP | FE720K | |
| Surgical sutures, 6-0 VICRYL | ETHICON | V489 | |