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Human Knee Cartilage Collection Protocol for Single Cell RNAseq

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Cartilage from the medial femoral condyle is shaved for Single Cell RNAseq processing. The attached image indicates where the cartilage shavings are collected from.

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Sterile drapes
Sterile gauze
Autoclaved tools
Disposable #21 scalpels
DPBS
DMEM
Antibiotic-Antimycotic
50mL conical tubes
Vice

Knee blocks are shipped on wet ice and received within 48 hours post-mortem from certified tissue banks. The average time from receiving the sample to harvesting cartilage from both knees is about 2

hours. Pictures are taken and macroscopic scoring of the cartilage is completed.

- 1 Prepare harvesting area with sterile drapes, tools and gauze. All harvesting is completed within an aseptic environment.
- 2 Wipe down the knee blocks with 95% ethanol prior to opening the joint capsule.
- 3 Once the joint capsule is opened, the femur and tibia are disarticulated. Wet a sterile gauze with DPBS+1% Anti-Anti and use it to wipe down the cartilage and place it on the cartilage surface to keep moist.

[1x DPBS Gibco - Thermo](#)

Fischer Catalog #14190144

[Antibiotic-Antimycotic \(100X\) Thermo Fisher](#)

Scientific Catalog #15240062

- 4 Full-thickness medial femoral condyle cartilage is shaved from the bone using a #21 scalpel; pieces typically measure maximum 10mmX25mm. 1.5g of shaved cartilage tissue is collected into a 50mL tube that is filled with 40mLs of DMEM + 1% Anti-Anti, then placed in wet ice until the cell isolation protocol for scRNAseq begins.

[DMEM with L-Glutamine 4.5g/L Glucose and Sodium Pyruvate Fisher](#)

Scientific Catalog #MT-10-013-CV

[Antibiotic-Antimycotic \(100X\) Thermo Fisher](#)

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See Description Section for image of medial condyle area of interest.