



Standard Operating Procedure

Protocol for Skin Biopsy Preparation

Introduction

Skin biopsy is a safe and easy procedure to collect material for cultivation of fibroblasts and long-term storage. The punch biopsy is the method of choice. For a proper cultivation the tissue should yield a sample of at least 3,5 x 3,5 mm. For the biopsy we use a 3.5 mm Biopsy punch (Stiefle). We send tissue or cultivated fibroblasts using a previously prepared medium and frozen fibroblasts in dry ice. Within Germany we recommend to tissue or frozen cells sent it via DHL, from abroad with TNT.

Performing skin biopsy

The best area for biopsy is the skin of the lateral thigh or upper arm. The area should be anaesthetized either with Eutectic Mixture of Local Anesthetics (EMLA) or with 0.5ml Lidocaine.

The skin is stretched (Fig.1) in a direction perpendicular to the resting skin lines to relax the tension lines.

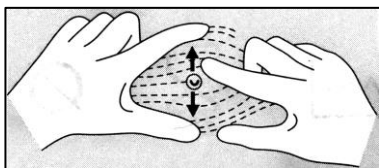


Fig.1: Stretching skin for biopsy

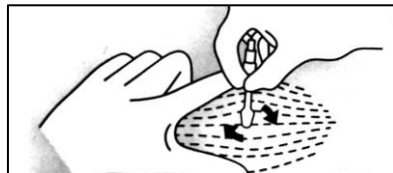


Fig.2: Rotatory movements

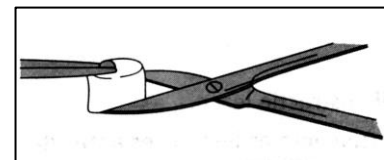


Fig.3: Biopsy separation

The punch is held between thumb and index finger. Place on upper skin surface. In moderate pressure press down in clockwise rotatory movements (Fig.2). Gently grip and raise skin sample with a small anatomical tweezer. Avoid any crushing. Separate the biopsy from the skin with a scissor or scalpel at base if necessary (Fig.3). Gently compress the wound and close it with sutures or hydrocolloid tape.



Medium for sending biopsy directly or cultivated fibroblasts

For sending tissue or cultivated fibroblasts we use a Medium consisting 500ml DMEM (PAN Biotech, Cat. No: P04-0155), 50ml "FBS" (Fetal bovine serum, Biowest, Cat. No. S1810-100) and 5ml "Anti-Anti" (Antibiotic-Antimycotic, Gibco, Cat. No 15240062).

Shipping biopsy directly

Fill a 15ml tube with about 12ml of the Medium and add the lung tissue. Make sure to store and sent the tissue at ambient temperature best over night to ensure the delivery to the central biobank within the next day.

Shipping cultivated fibroblasts

Completely fill the bottle with the cultivated fibroblasts with the Medium, best sealed with parafilm to ensure no air exchange. Make sure to store and sent the tissue at ambient temperature best over night to ensure the delivery to the central biobank within the next day.

Shipping frozen fibroblasts

Frozen cells should be sent in dry ice (about 10kg) in a styrofoam box.

References

- (1) Nischal U, Nischal K, Khopkar U, Techniques of Skin Biopsy and Practical ConsiderationsJ 2008 Cutan Aesthet Surg. 1(2): 107–111.
- (2) Stiefel, Biopsy punch, Instructions, GlaxoSmithKline GmbH