PROTOCOL FOR VETERINARIANS

Post-mortem biopsy: conditions for obtaining viable cells

When a post-mortem biopsy is performed to preserve an animal's cells, it is essential that the cells collected are viable. These are the factors that most affect the outcome and how to manage them.

1 TIME SINCE DEATH

Time is the most critical factor: the sooner the biopsy is performed, the higher the chance of obtaining viable cells.

- **Optimal time:** the best samples are obtained within the **first 5 hours** after death.
- **Time limit:** viable cells can be obtained up to 5 days later, but success drops drastically after 24 hours.
- **Recommendation:** act as soon as possible and, where it can be foreseen, arrange the collection in advance.

2 REFRIGERATION OF THE BODY

Refrigeration slows decomposition, but it must be done correctly.

- **Temperature:** keep the body refrigerated at **2–4 °C**.
- **Never freeze:** freezing forms ice crystals inside the cells and destroys them.
- **Recommendation:** if the biopsy cannot be done immediately, place the body in a refrigerator as soon as possible. Do not use freezers or expose it to sub-zero temperatures.

3 CONDITION OF THE BODY

- **Avoid heat and direct sunlight**, which speed up decomposition.
- **Ideal conditions:** a clean, cool place, preferably inside a sealed plastic bag to prevent contamination and loss of moisture.

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4 COLLECTION METHOD

Collection must be carried out with the utmost care to avoid contaminating or damaging the cells.

- **Biopsy site:** skin, usually from the ear or thigh. A square of about 5 cm, 1 cm deep, is sufficient.
- **Tissue condition:** choose areas free of trauma, infection or necrosis.
- **Preparation:** shave the area and clean it thoroughly with a sterile solution (chlorhexidine soap, iodine alcohol or 96% alcohol) until the skin is completely clean.
- **Sterile technique:** work in a clean environment, with sterile gloves and instruments.

5 STORAGE OF THE BIOPSY

Once collected, the sample must be stored correctly until it is picked up and taken to the laboratory.

- **Storage medium:** sterile saline solution with **1% antibiotic** to prevent bacterial growth (for example enrofloxacin, amoxicillin-clavulanic acid, penicillin, gentamicin, kanamycin, amphotericin or streptomycin).
- **Container:** sterile and hermetically sealed, such as a 200 ml urine sample jar from a pharmacy.

> **Example:** in a sterile urine jar, 198 ml of saline solution + 2 ml of antibiotic.

- **Temperature:** keep the sample refrigerated, never frozen.

6 SHIPPING

- In an **insulated cooler with frozen gel packs**, without the packs touching the sample container directly.
- Include the animal's documents and details.

When everything is ready, call us and we will arrange collection of the sample. If you have any questions during the process, we are here to help.

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QUICK SUMMARY

- Biopsy within the **first 5 hours** (success drops sharply after 24 h).
- Body in the **fridge, 2–4 °C**. Never frozen, never in the heat.
- Skin from the ear or thigh, shaved, disinfected, sterile technique.
- Sample in saline with 1% antibiotic, in a sterile jar, refrigerated.
- Ship in an insulated cooler with gel packs, without direct contact.