

# Biobanking of processed mice brains

Created on: 14-02-2020 - Last modified on: 04-03-2020

## Organisation

**Name of the organisation** Katholieke Universiteit Leuven (KUL)

**Department** Department of Imaging & Pathology

**Country** Belgium

**Geographical Area** Flemish Region

**Name of the organisation** Katholieke Universiteit Leuven (KUL)

**Department** Neuropathology Lab

**Country** Belgium

**Geographical Area** Flemish Region

## SCOPE OF THE METHOD

<b>The Method relates to</b>	Animal health, Human health
<b>The Method is situated in</b>	Basic Research, Translational - Applied Research
<b>Type of method</b>	In vitro - Ex vivo
<b>Species from which cells/tissues/organs are derived</b>	Mouse, human
<b>Type of cells/tissues/organs</b>	Brain

## DESCRIPTION

### Method keywords

biobanking

frozen tissue

paraffin blocks  
brain slices  
mouse  
IHC and IF stainings

### **Scientific area keywords**

neuropathology  
tissue biobanking  
biochemistry  
genetics and transcriptomics

### **Method description**

Brain from treated and not treated mice is collected after death. Tissue is fixed in 4% PFA for 4 days. After specific cutting (ex. L and R hemisphere) tissue is placed in a cassette. Cassette is placed in Tissue Processor (where water from the tissue is removed and replaced with paraffin). Brain is embedded in paraffin. After paraffin block is ready it can be cut with microtome and slides can be stained or stored. In this method tissue from different mouse strains, different age, treated or not treated mice can be processed and stored for future applications/projects. Slides can be used for different kinds of stainings even years after collecting of the tissue.

### **Lab equipment**

PFA 4% ;  
Perfusion equipment ;  
Paraffin ;  
Tissue Processor ;  
Tissue embedding equipment ;  
Microtome.

### **Method status**

History of use  
Internally validated

## **PROS, CONS & FUTURE POTENTIAL**

## **Advantages**

Collected, processed and sliced tissue from one mouse can be used for many different projects.

## **Challenges**

Big challenge for this method is collecting enough tissue from enough number of mice at different age.

Space for collected tissue (blocks and slides).

## **Modifications**

Biobanking can be used for any type of tissue and any kind of lab animal. Another alternative method to replace studies on murine disease models for pathological features is the use of human autopsy tissue that allows to study a disease as well, which is collected in ethically approved recruitment projects. Alternatively, frozen tissue/lysates not entirely needed for a distinct study can also be kept frozen in the biobank for further experiments.

## **Future & Other applications**

Centralized Animal Biobank may potentially decrease number of animal used in experiments.

## **REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION**

*Coordinated by*



*Financed by*

