

Video Article

# Whole animal perfusion fixation for rodents

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## Abstract

The goal of fixation is to rapidly and uniformly preserve tissue in a life-like state. While placing tissue directly in fixative is effective for small pieces of tissue; in larger specimens like the intact brain immersion fixation is not efficient because diffusion of the fixative is slow and thus does not reach all regions of the tissue at the same rate. Often, changes in response to hypoxia begin before the tissue can be preserved. The advantage of directly perfusing fixative through the circulatory system is that the chemical can quickly reach every corner of the organism using the natural vascular network. In order to utilize the circulatory system most effectively, care must be taken to match physiological pressures. It is important to note that physiological pressures are dependent on the species used. Techniques for perfusion fixation vary depending on the tissue to be fixed and how the tissue will be processed following fixation. We present here perfusion fixation techniques for the rat brain which provide for consistent, uniform fixation resulting in tissues properly preserved for immunohistochemistry procedures.

## Disclosures

No conflicts of interest declared.