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1. Purpose of fixation

In performing their protective role, fixatives denature proteins by coagulation, by forming additive compounds.  A compound that adds chemically to macromolecules stabilizes structure most effectively if it is able to combine with parts of two different macromolecules, an effect known as cross-linking. Fixation of tissue is done for several reasons. One reason is to kill the tissue so that postmortem decay (autolysis and pputrefaction) is prevented. Fixation preserves biological material (tissue or cells) as close to its natural state as possible in the process of preparing tissue for examination. To achieve this, several conditions usually must be met.

* 1. First, a fixative usually acts to disable intrinsic biomolecules—particularly [proteolytic](https://en.m.wikipedia.org/wiki/Proteolysis) [enzymes](https://en.m.wikipedia.org/wiki/Enzyme) , which otherwise digest or damage the sample.
  2. Second, a fixative typically protects a sample from extrinsic damage.
  3. Finally, fixatives often alter the cells or tissues on a molecular level to increase their mechanical strength or stability.

1. List 5 compound fixative and composition.
   1. Zenker’s solution

Distilled water- 950ml

Potassium dichromate- 25g

Mercuric chloride- 50g

Glacial acetic acid- 50g

Fixed tissue should be washed overnight in running tap water before processing.

* 1. Bounin's solution

Saturated aqueous solution of picric acid- 75ml

Glacial acetic acid- 5ml

Formalin – 25ml

Fixed tissue should be transferred to 75% alcohol.

* 1. Carnay's solution

Ethanol- 60ml

Chloroform- 30ml

Glacial acetic acid- 10ml

Fixed tissue should be processed immediately or transferred to an 80% alcohol.

* 1. Champy's solution

Methanol, absolute- 60.0ml

Chloroform- 30.0ml

Glacial acetic acid- 10.0ml

* 1. Helly's solution

Potassium dichromate- 25g

Mercuric chloride- 50g

Sodium sulphate- 10g

Distilled water- 100ml.