







Introduction

- Fixation
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- Tissue processing
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- Sectioning
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- Staining

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Reaction of fixatives with Protein

Most important reactions which stabilizes proteins by forming cross links between soluble protein & structural protein. Ultimately providing some mechanical strength.

Aldehydes

- Cross links are formed between protein molecules and Aldehyde group of fixative.
- Aldehydes react with the basic amino acid residues of proteins & there is an accompanying change in isoelectric point of proteins.
- This may form the basis for the of the different staining of tissues after different fixations.

- Process takes places in 2 step

1st step-small polymers are formed

2nd step small polymers cross-link

Formations of cross linkages between Aldehyde and protein is measured by changes in viscosity, mechanical strength and molecular size of protein.

Formaldehyde

- Slow reaction
- Reversible*(in first 24 hr with excess of water)
- Not good morphological picture
- Less effective at cross linking
- Loss of enzyme and immunological activity is less

Glutaraldehyde

- Rapid
- Irreversible
- Good morphological picture
- More effective at cross linking
- Loss of enzyme and immunological activity more