

WORKSHOP SUMMARY

Workshop: Sample preparation I/II

Topic: FFPE: antigen retrieval and washing

Session: 1D & 2D

Time: Tuesday 10:30 am & 1:30 pm

Background

The majority of banked clinical tissue samples are formalin fixed and paraffin embedded as this fixation process renders the tissue specimens stable for decades of storage. However, the protein crosslinking that results from the fixation causes difficulties in accessing the proteins for imaging mass spectrometry. To alleviate these difficulties, we have adopted a sample preparation process similar to that used for immunohistochemistry involving sectioning of tissue blocks (covered in workshop session 1C & 2C), deparaffinization and rehydration, followed by heat induced antigen retrieval of the sections. This workshop will demonstrate the process for preparing FFPE tissue sections for staining and imaging mass spectrometry.

Highlights

- Deparaffinization and rehydration using xylene and graded ethanol
- Heat induced antigen retrieval using buffers and a pressure cooker

Summary

Tissue sections will be deparaffinized using xylenes and rehydrated using graded ethanol and water. The sections will be subjected to heat induced antigen retrieval using Tris buffer. A discussion of other buffers and time/temperature considerations for minimizing sample loss will also be covered.

Suggested Reading

Yamashita, S. (2007) Heat-induced antigen retrieval: mechanisms and application to histochemistry. *Prog Histochem Cytochem*, 41, 141-200.

Leong, A.S. and Haffajee, Z. (2010) Citraconic anhydride: a new antigen retrieval solution. *Pathology*, 42(1), 77-81.

