Histopathology - Immunohistochemistry

Clinical Information

Extra tests - Immunohistochemistry (IHC)

Immunohistochemistry is a laboratory technique used to detect proteins in tissue samples. These proteins can help to diagnose cancer, infections and show areas which are normal. Detection of these proteins can also help doctors pick the best treatment options for patients.

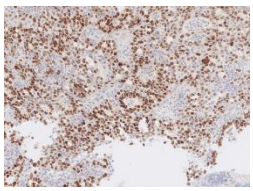
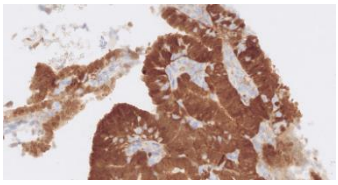
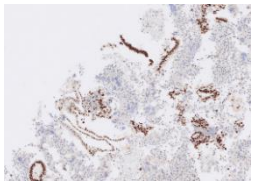
Immunohistochemistry is commonly used in:

- **Pathology**: To confirm diagnoses eg. autoimmune disorders, cancers, infections.
- **Cancer diagnosis**: To provide further information on the cancer type, stage, and grade. This helps doctors to make a treatment plan.
- **Research**: To study the disease and help to find new drugs to treat different illnesses.

IHC Process and examples

Key Points of IHC:

1. Sample Preparation: Tissue samples, such as biopsies, are collected from the patient and preserved in formalin to prevent degradation. The tissue is then embedded in wax to allow thin slicing onto microscope glass slides.
2. There are then various steps to be able to see where the proteins are within the tissue section. These steps can involve heat and use of chemicals to help staining.
3. Other dyes are added to help see the rest of the tissue features.
4. The slides are looked at down the microscope. Location of stain are used to identify which cells or tissues express the specific protein. Example images below:

Tissue retention: IHC slides are kept for 15 years before being disposed as part of patient record. This is in line with current RCPath and HTA guidelines.

(**Last updated August 2025)**