

## **SPECIMENS FOR IMMUNOFLUORESCENCE**

Immunofluorescence is used to detect the deposition of immunoglobulins or immune complexes in tissue. The predominant sites of clinical importance are skin and kidney. Immunofluorescence is useful in confirming a diagnosis of discoid lupus erythematosus, pemphigus, dermatitis herpetiformis and pemphigoid to mention the most common entities.

Biopsy specimens should be placed in Transport media or Zeus's media as soon as possible and transported by courier. The media is not a fixative, but rather a holding balanced salt solution. Specimens are adequately preserved in this solution for only a few days. The mail should not be used for transport of these specimens.

When skin is submitted for immunofluorescence, it is optimal to send one specimen in Zeus's media and a second of similar quality in formalin for routine histology. A large punch biopsy or skin ellipse may be divided or two individual small punch biopsies should be representative of the lesion. If the specimen is sufficient for only one study, formalin fixation for routine histology is the more useful study unless the specimen is submitted to confirm a well established and limited differential diagnosis.

## **IMMUNOHISTOCHEMISTRY**

Immunohistochemistry refers to a broad class of staining techniques including the subset commonly referred to as immunoperoxidase stains. The basis of all these stains is the use of a specific antigen/antibody reaction and its elucidation via a color-producing reaction. The technique may be used to demonstrate the presence, location and even the quantity of the antigens present in tissue sections. In theory, the technique is simple, but in practice is fraught with technical and interpretive pitfalls. At PSIP, immunohistochemistry is employed only as an adjunct to good clinical information, and sound gross and microscopic interpretation.

Immunohistochemical stains done at PSIP are designed to be performed on formalin fixed tissue. The peroxidase-antiperoxidase method is used.

All stains are produced by histotechnologists experienced with the technique. Both a negative and positive control are performed with each antibody. Stains of dubious quality or results are repeated.

The stock of antibodies retained at PSIP is constantly changing to reflect the state-of-the-art.

Whenever an unusual neoplasm or malignant lymphoma is suspected, it is optimal for the pathologist to receive the tissue fresh, thus a frozen section or touch preparation may be performed as needed, and any special handling can be accomplished by the pathologist. However, tissue should be left unfixed only in those cases in which delivery to the pathologist will be immediate (less than an hour). Tissue left without

fixative or refrigeration for a prolonged period will quickly become useless, even for routine processing. The primary consideration in any case is adequate and proper fixation. When in doubt, place in 10% neutral buffered formalin, which is available from PSIP. Adequate formalin should be used – roughly five to ten times the volume of tissue. Encapsulated nodules or organs and biopsies larger than 1.0 cm in least dimension should be sectioned.