

## **ADNI-NPC Neuropathology Protocols**

Where possible, each center will undertake its own brain assessment and forward a standard set of fixed tissue blocks or sections and frozen tissue to ADNI-NPC (see below). For sites that do not routinely undertake neuropathologic studies, a separate brain removal protocol is listed in the Appendix.

### **Financial Assistance with Block Sampling, Preservation, and Shipping Costs**

The ADNI-NPC will fund all costs in shipping frozen and fixed tissue samples to St. Louis. To assist participating centers and neuropathologists with the costs of obtaining frozen tissue blocks and/or formalin-fixed paraffin wax-embedded tissue the following costs will be reimbursed, if requested:

1. Harvesting of frozen tissue and/or formalin-fixed paraffin wax-embedded tissue blocks (\*see list of brain regions below) \$300.
2. Harvesting formalin-fixed paraffin wax-embedded tissue sections or frozen sections (\*see list of brain regions below) \$100.

### **\*ADNI-NPC Block Sampling**

Resources to defray the costs of sampling, tissue, processing, administration, and transport will be made available to each center already undertaking neuropathology. These resources are to facilitate the provision of the standard set of blocks for ADNINPC. To minimize the burden on participating centers, formalin-fixed, paraffin wax embedded tissue blocks from the following 16 areas from the left cerebrum will be forwarded to ADNI-NPC:

1. Middle frontal gyrus
2. Superior and middle temporal gyri
3. Inferior parietal lobe (angular gyrus)
4. Occipital lobe to include the calcarine sulcus and peristriate cortex
5. Anterior cingulate gyrus at the level of the genu of the corpus callosum
6. Posterior cingulate gyrus and precuneus at the level of the splenium
7. Amygdala and entorhinal cortex
8. Hippocampus and parahippocampal gyrus at the level of the lateral geniculate nucleus
9. Striatum (caudate nucleus and putamen) at the level of the anterior commissure
10. Lentiform nuclei (globus pallidus and putamen)
11. Thalamus and subthalamic nucleus
12. Midbrain
13. Pons
14. Medulla oblongata
15. Cerebellum with dentate nucleus
16. Spinal cord

In the unusual situation where it is impractical to forward a tissue block (e.g., if the block is used for stereology), 10 paraffin wax sections (4-8 (m) from each block will be provided to ADNI-NPC for systematic neuropathology and diagnosis.

## **Frozen Tissue**

To provide tissue for biochemical studies and to advance the aims of the Biomarkers Study, snap frozen tissue will be dissected, frozen, and sent to ADNI-NPC. The following coronal hemibrain slices (0.5 to 1cm thick), where possible, will be taken:

1. Frontal lobe to include striatum;
2. Frontal and temporal lobe at the level of the mamillary body;
3. Temporal and parietal lobes at the level of the lateral geniculate nucleus;
4. Occipital lobe to include the calcarine sulcus.