Purpose:
To provide researchers with an inexpensive tissue microarray of a limited number of formalin fixed paraffin embedded samples that can be used to titrate assay parameters prior to use of more comprehensive tissue microarrays.

Tissue samples:
Selected to contain lymphoid, epithelial and stromal tissue: spleen, colonic mucosa, prostate, liver, breast cancer and uterine smooth muscle. Two cases of each tissue type are present.

TMA manufacture:
Each case was sampled 3 times with 0.6 mm needle cores. The array is sectioned at 4 micron thickness and placed on charged glass slides (Superfrost Plus, Fisher Scientific) immediately before being sent to investigators. Due to limitations in TMA technology, not all of the cores in the TMA design may be present in the sections that you receive.

THE TISSUE SAMPLES HAVE BEEN ANONYMIZED, NO FURTHER DATA ON THE DONORS IS AVAILABLE OTHER THAN THAT FOUND IN THE ACCOMPANYING DATA SHEET.

Guide sheets in Microsoft Excel format and H&E stained whole-slide images representative of the array are available on the CHTN TMA website: http://chtn.sites.virginia.edu/.

if you are missing all tissue spots from a target tissue type on your array sections, please contact the CHTN Mid-Atlantic Division at (434) 924-9879.

Frequently asked questions:

Why aren't all there as many tissue spots on my section of the array as are listed on the TMA key?

> The key represents the original TMA design. Tissue cores are of various lengths, hence at deeper sections, some cores have been exhausted while others remain. In addition, some tissue spots may be lost during the process of transferring the TMA section to the glass slide.

Why isn't the target tissue type present in the tissue spot?

> Although TMA manufacture is guided by a histologic section that represents the surface of the donor tissue, this target tissue may not be uniformly represented in the deeper sections of the tissue. This problem is greatest with small structures (e.g. breast ducts and lobules).

Can I use antigen retrieval methods (boiling, microwave, pressure cooker, etc) on these sections?

> Yes.

Can I perform *in situ* hybridization on these sections?

> Yes

Definitions and abbreviations:

Donor block: a tissue paraffin block (see below) that contains tissue of the desired type to be placed into the tissue microarray.

Histologic section: a flat sheet of paraffin and embedded tissue cut from a paraffin block on a microtome. The thickness of the section can vary, but a typical thickness is 4 microns (micrometers).

Recipient block: The blank paraffin block into which tissue cores are inserted to form the tissue microarray.

Tissue core: the cylindrical tissue sample removed from the donor block, which is placed in the recipient block.

TMA: tissue microarray. A recipient paraffin block into which tissue cores have been inserted in a gridded array.

Tissue paraffin block: a sample of tissue that has been fixed in formalin, processed to remove water, then infused with molten paraffin, which is allowed to harden within and around the tissue in a square mold. This is the standard method of preparing tissue for clinical histologic analysis. The paraffin block is subsequently cut on a microtome to produce thin histologic sections which are placed on glass slides. In the manufacture of TMAs, these become the donor blocks.

Tissue spot: the tissue sample present on a histologic section of a tissue microarray that corresponds to a tissue core.