Tissue Micro arrays (TMA)

What is it?

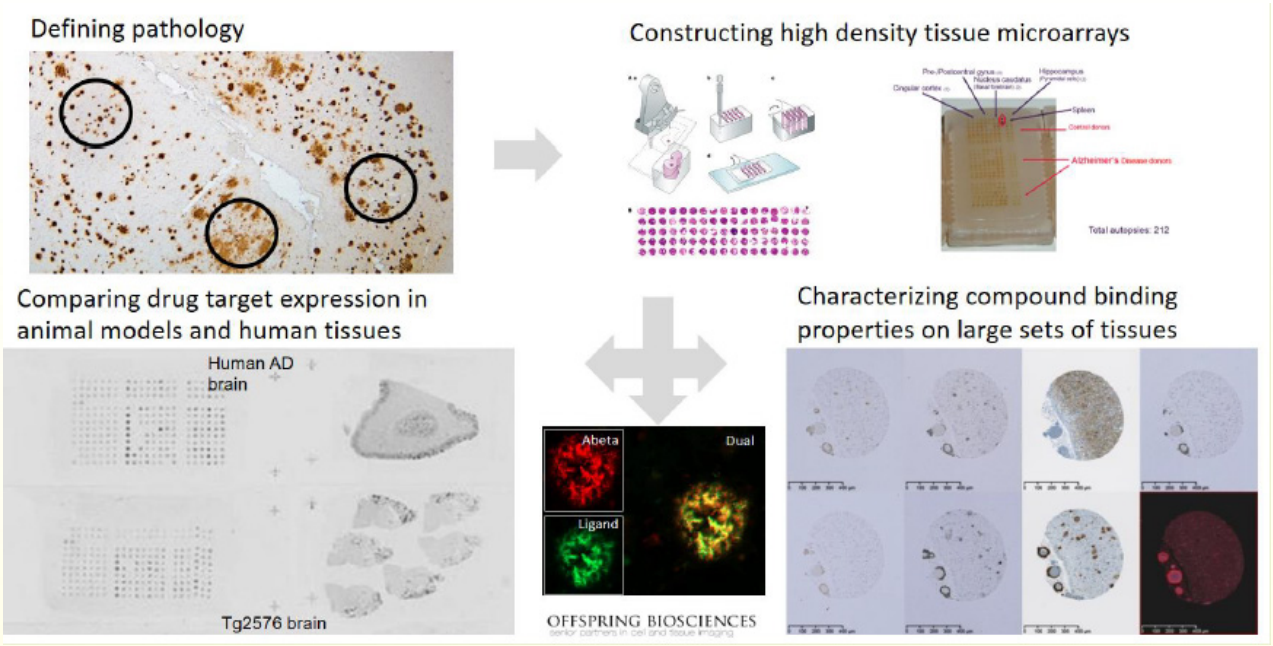
- The use of Multi-tissue blocks was first introduced by H. Battifora in 1986. In 1998, J. Kononen and collaborators developed the current technique, which uses a novel sampling approach to produce tissues drill cores of regular size and shape that can be arranged more densely in an array format.

What can it be used for?

- Tissue microarrays (TMA) can be used for simultaneous analysis of the expression of proteins and mRNAs as well as for ligand binding studies in tissue biopsies/autopsies that are arranged in a high-density format.
- One of the main advantages with the TMA technique is the possibility to use relatively slow methodological approaches such as in situ hybridization and immunohisto-chemistry in a high throughput format. These qualities make TMAs an attractive screening tool for expression analysis both for the target identification/validation process as well as for toxicological evaluations and autoradiography studies.

Our services

- The Offspring team has extensive experience constructing TMAs for generation of strong data in tissues from both preclinical animal models of disease and the corresponding human disease state.
- The TMA can be generated from fixed and paraffin embedded human and animal tissues.
- We also use TMA-formatted tissues for tissue cross reactivity (TCR) studies before clinical trial (biologics and in some cases SMDs)
- A typical build of a TMA includes:
  - Pre-evaluation of tissue quality
  - Pathological characterization
  - Defining sites for sampling of drill cores
  - Assembly of tissue cores (diameter = 0,6 - 2mm) from selected tissue areas into a recipient TMA block.
  - Reconfirmation informativity and functionality of the TMA


Defining pathology
Constructing high density tissue microarrays
Spleen
Total autopsies: 212
Comparing drug target expression in animal models and human tissues
Characterizing compound binding properties on large sets of tissues
Human AD brain
Tg2576 brain
Abeta
Dual
Ligand
OFFSPRING BIOSCIENCES