

Topics of interests

- Understanding resistance(CDK4/6i, ER targeted) in metastatic Breast Cancer - PDX and Organoids
- Biology of pre-neoplastic lung cancer: Relationship between early changes in lung features e.g. ground-glass nodules and development of lung cancer
- Pre-clinical mouse models of immunosuppressive tumour genotypes, including LKB1 / PTEN loss
- Investigation of mechanisms to improve antigen presentation on tumour cells
- Models and approaches to investigate T cell lineage maturation in tumours.
- PI3K and AKT biology in the context of tumour immunity and IO response
- Understanding mechanisms of sensitivity / resistance to PARPi. Proposal related to: tumour samples, ctDNA, PDx models from patients before treatment and on progression with PARPi (Ovarian, breast, prostate, pancreas).
- Development of assays for replication stress that can be deployed in FFPE tissue for testing patient selection hypotheses for AZ's DDR inhibitors.



Topics of interests

- Understanding the role of SLFN11 expression in sensitivity to DDRi agents. Evaluation of the correlation of SLFN11 expression and sensitivity to gemcitabine in pancreas tumor samples.
- Investigate biomarkers for sensitivity and resistance to PARPi in monotherapy and combination
- Pre-clinical models derived from early stage disease, relapse on adjuvant therapy, specific genotypes eg HER2 mutations, SMARCA4 loss
- Models to accurately model liver inflammation frequently seen with immunotherapy



Topics of interests (ctDNA sample collaboration, except CN)

- Breast cancer: 1) ctDNA to guide adjuvant approach including post neoadjuvant treatment or Molecular recurrence disease (MRD), focus on 1L ET+CDK4/6/ 2) Pre- and post-treatment, longitudinal during treatment for ctDNA samples and on progression for tumour biopsies(TNBC or HER2+)
- Bladder cancer: Proposal related to molecular markers in bladder, e.g. ctDNA in PBMC and urine (patient population: MIBC patient samples (blood and urine) who don't progress, either after neoadjuvant therapy alone or neoadjuvant therapy plus cystectomy or definitive radiation therapy)
- Lung cancer: 1) Collaboration studying longitudinal ctDNA in Stage III NSCLC patients prior to and post CRT + IO to identify patients at high risk of progression 2) Pre and post 1 line Tagrisso tumour tissue, plasma sample pre and post-surgery in early stage disease setting
- HCC: HCC patients treated with IO and VEGF combination(plasma samples)

