Novel Modalities: Viruses as Cancer Therapeutics – Converting Bad to Good

Cancer Progress by Defined Health
New York, NY | March 7 - 8, 2017

Novel Modalities: Viruses as Cancer Therapeutics – Converting Bad to Good

Moderator:

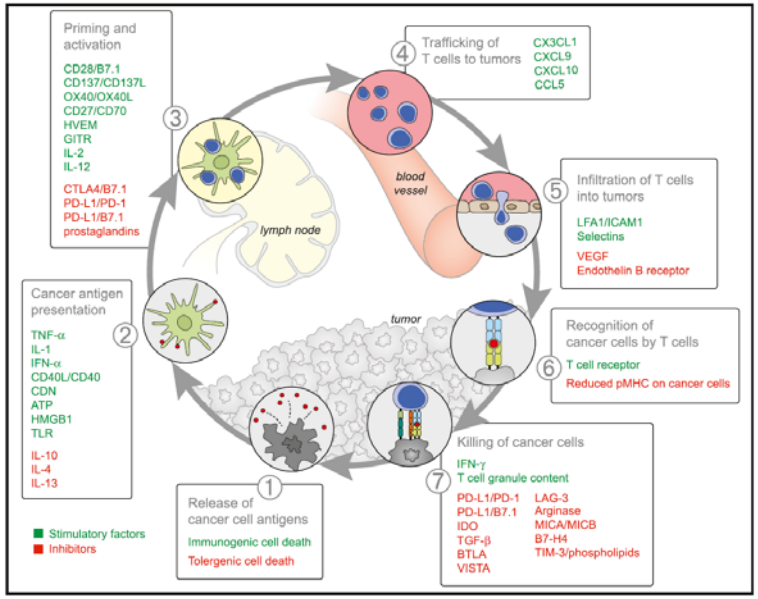
- *Jeffrey M. Bockman, PhD,* Senior Vice President, Head of Oncology Practice, Defined Health

Panelists:

- *John Beadle, MD,* Chief Executive Officer, PsiOxus Therapeutics Ltd.
- *John C. Bell PhD,* Senior Scientist, Ottawa Hospital Research Institute, University of Ottawa
- *Robert Coffin, PhD,* Chief Executive Officer & Director, Replimune
- *Noriyuki Kasahara, MD, PhD,* Professor, Departments of Cell Biology & Pathology Co-Leader, Viral Oncology Program, University of Miami (and consultant to Tocagen)

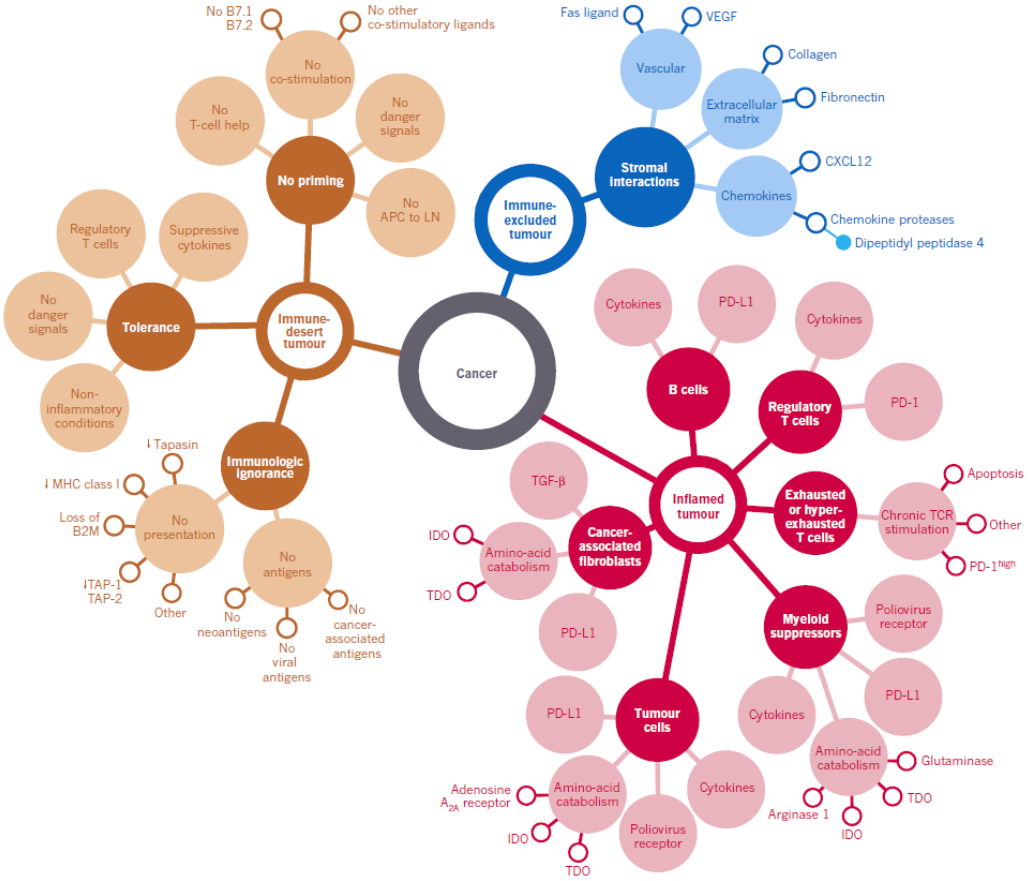
Elements of cancer immunity and the cancer–immune set point

THE CANCER IMMUNITY CYCLE



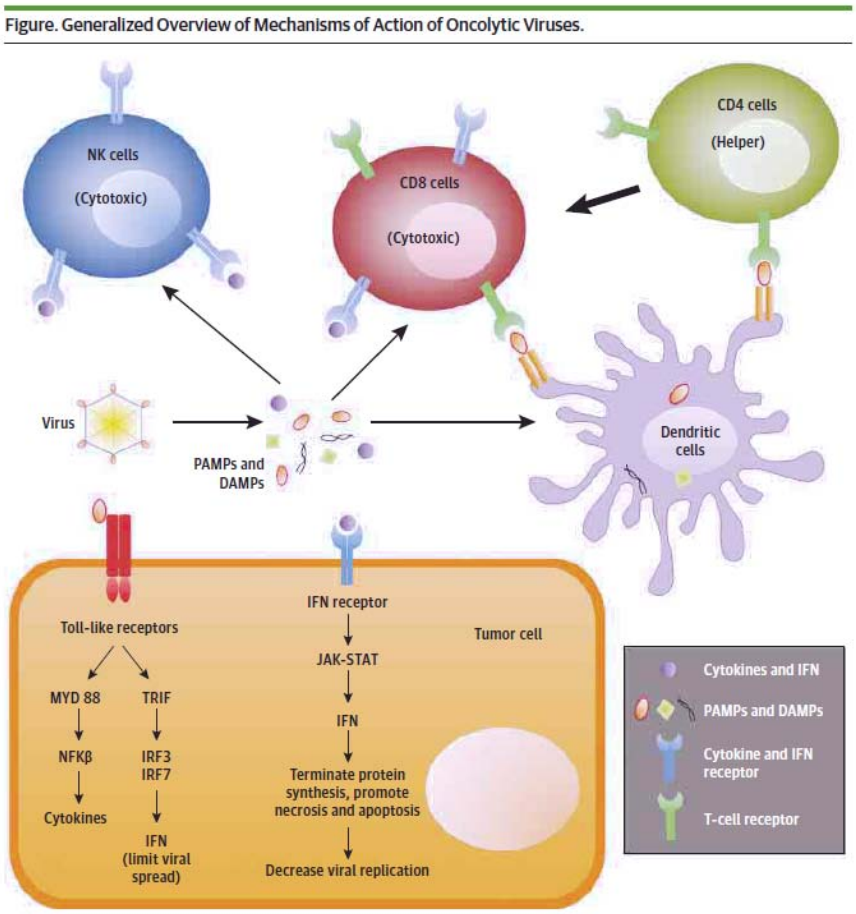
Chen and Mellman, Immunity. 2013 Jul 25;39(1):1-10

CANCER IMMUNE PHENOTYPES

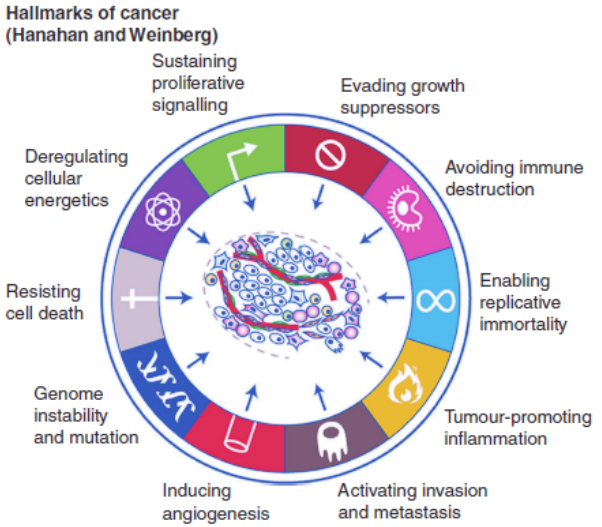


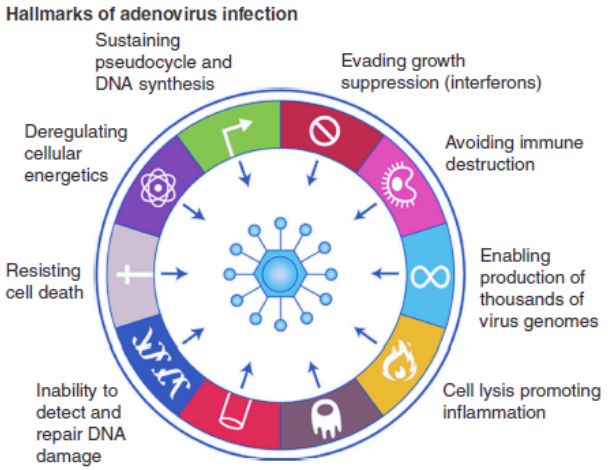
Chen and Mellman, Nature 541 (7637), 321-330. 2017

Oncolytic Viruses Leverage the Special Biology of Viral Infections



JAMA Oncol. doi:10.1001/jamaoncol.2016.2064

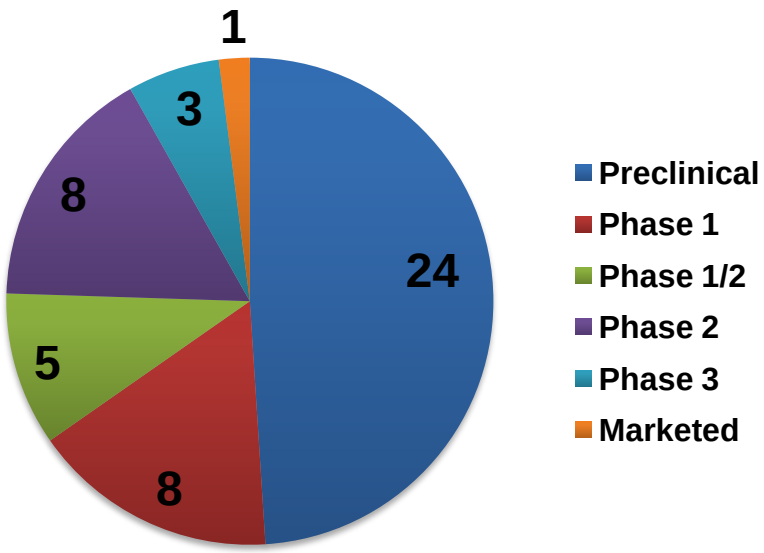




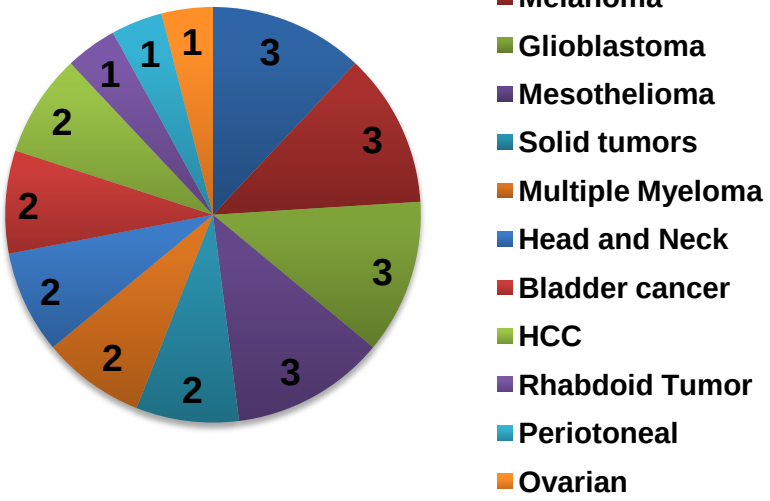
British Journal of Cancer (2016) 114, 357–361 | doi: 10.1038/bjc.2015.481

Oncolytic Virus Analysis

Oncolytic Virus Phase Distribution (n=49)

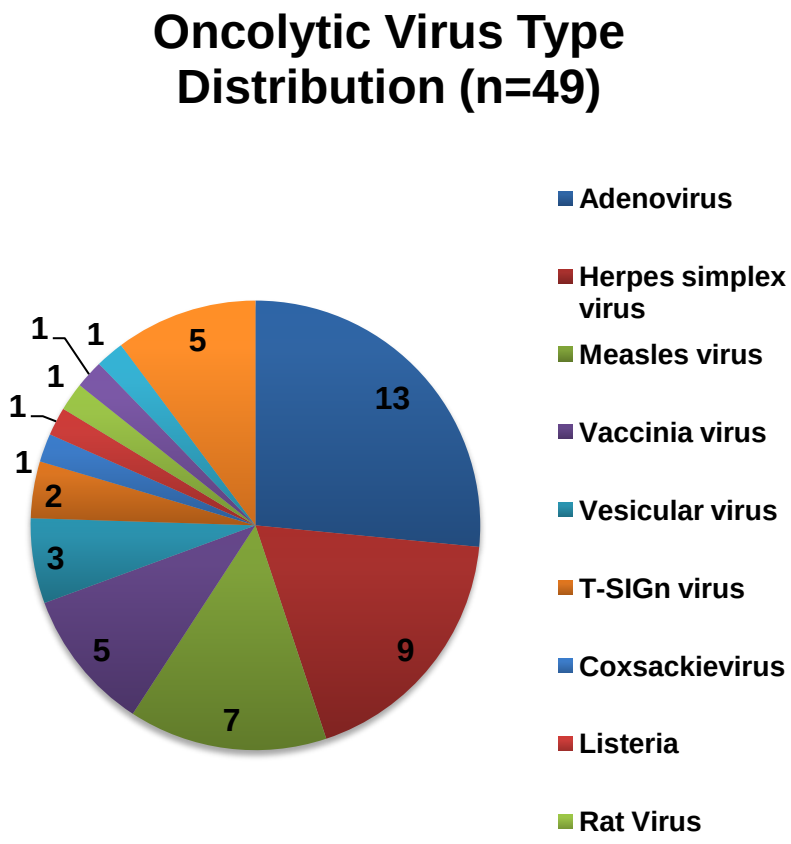


Clinical Oncolytic Virus Highest Indication Distribution (n=25)



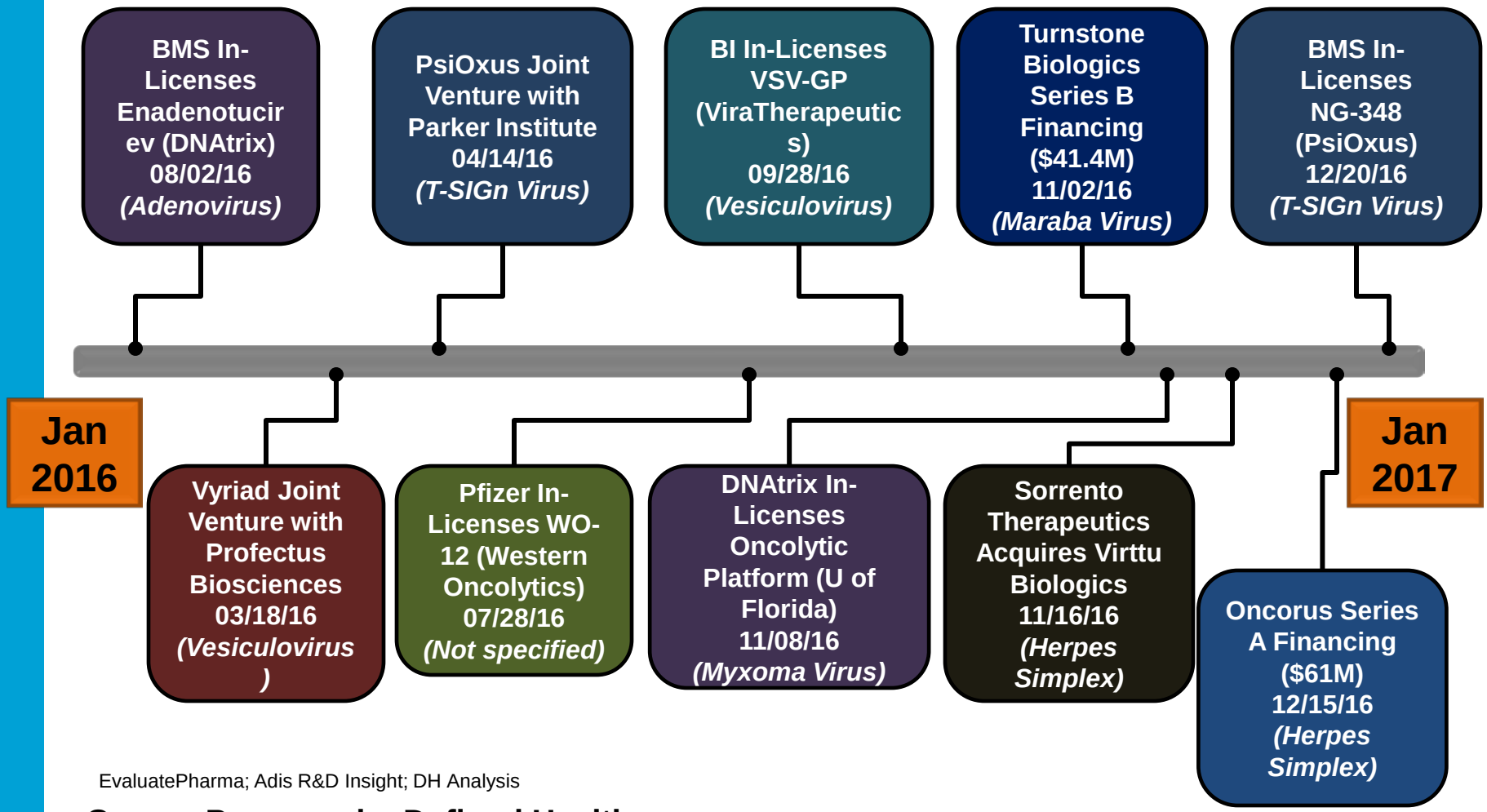
Adis R&D Insight; DH Analysis

Oncolytic Virus Analysis



Adis R&D Insight; DH Analysis

Recent Oncolytic Virus Product Deals (2016-2017)



EvaluatePharma; Adis R&D Insight; DH Analysis

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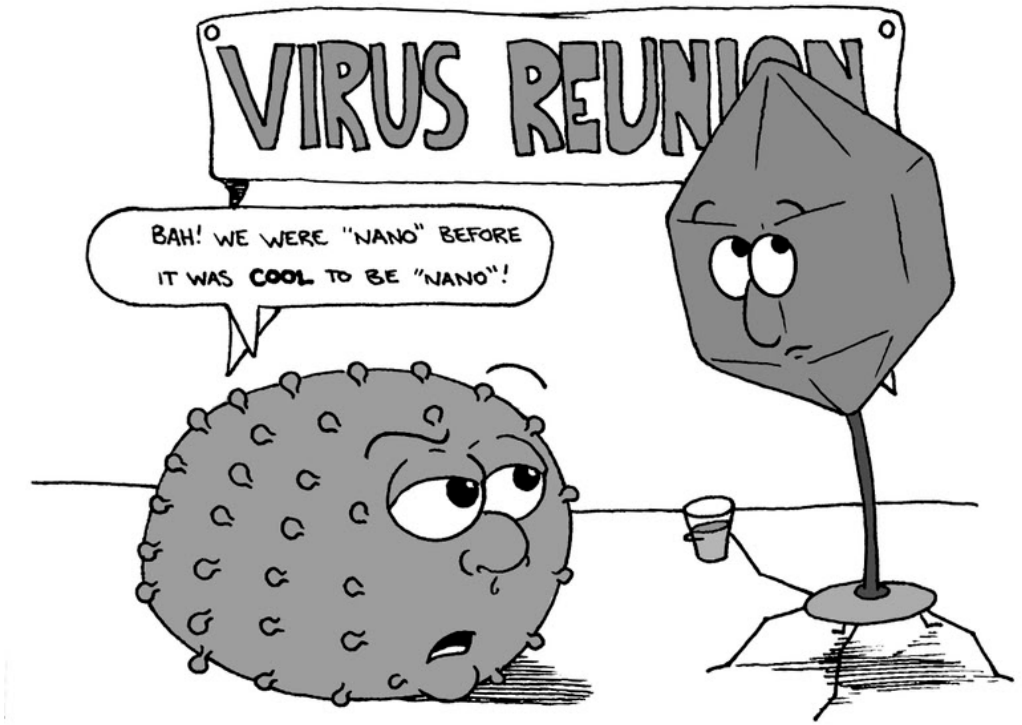

propagated in the same mouse strain appeared the same, but they were distinct from the same isolate of scrapie passaged in hamsters. Lastly, PrPScs purified from five different strains of scrapie propagated in C57BL mice were identical, including strains, ME7 and 139A, which were previously reported to be distinct. This evidence does not support, although it does not exclude, agent-mediated characteristics independent of host-mediated ones for scrapie and CJD.

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Panel Topics:

- Not a monolithic entity, diversity of viruses, transgenes, etc.
- OV vs gene therapy distinctions?
- What do OV actually do?
  - in situ vaccine, immunogenic cell death, danger signals
  - chemokines,
  - antigens incl. NeoAg
  - etc.
- Where does OV fit in? Immune desert/cold tumors, inflamed, upping ORR in “hot” tumors?
  - Merging combinations – e.g., TVEC+CPIs
  - What types of IO combinations – CPIS, but also RT, chemo?
  - Old administration bugaboo of IT/local vs IV/systemic – a strawman?
- How much engineering can/should one do – redirecting, adding single chain or other ways to block checkpoints, next gen novel transgenes, etc?
- In light of such diversity, will there be winners, loser – will there be a best in class or multiple options for different settings/situations?
- Role for Dx/immune monitoring – what biomarkers, cell types, platforms to better enable deployment of OVs to maximal advantage?