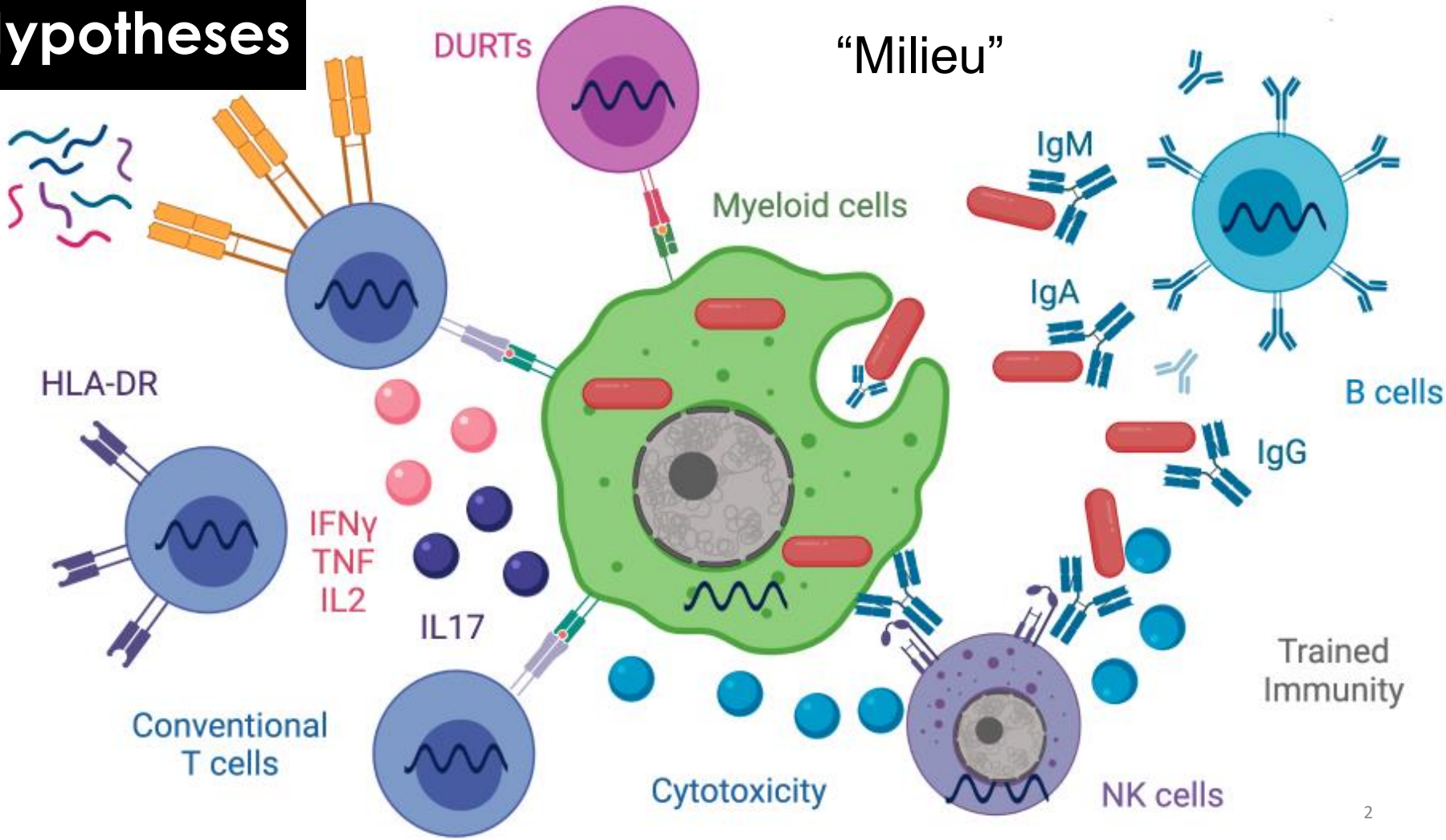
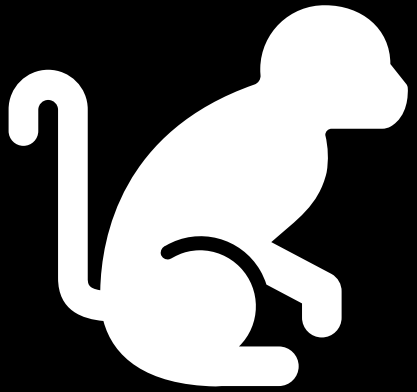
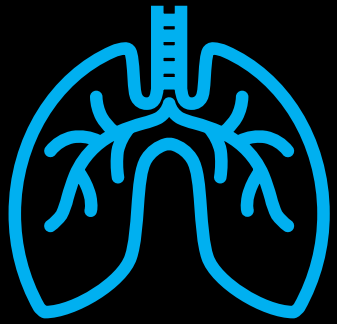
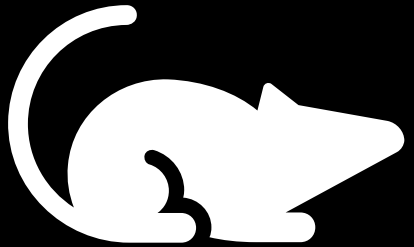
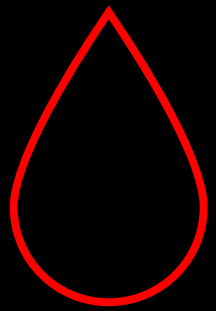
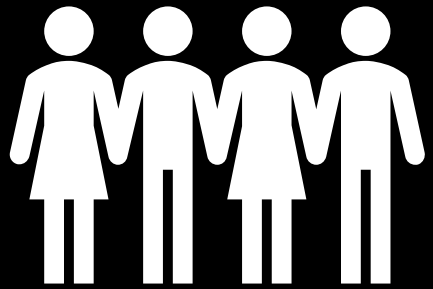
TB Immune Correlates of Protection (continued)

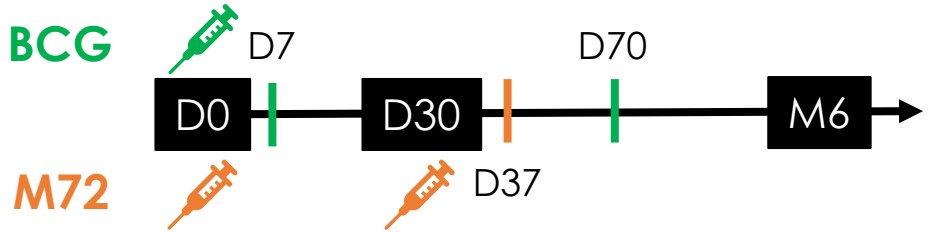
A/Prof Elisa Nemes

Hypotheses

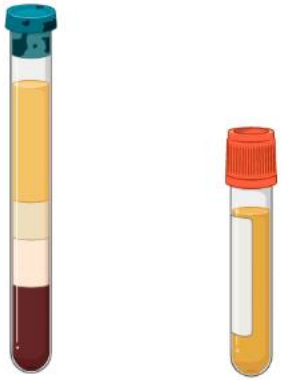

DURTs
“Milieu”
IgM
Myeloid cells
IgA
HLA-DR
B cells
IgG
IFNγ
TNF
IL2
IL17
Trained
Immunity
Conventional
T cells
Cytotoxicity
NK cells

Samples



D0, D70, M6 (2 vials!)
D0, D37, M6 (6 vials)

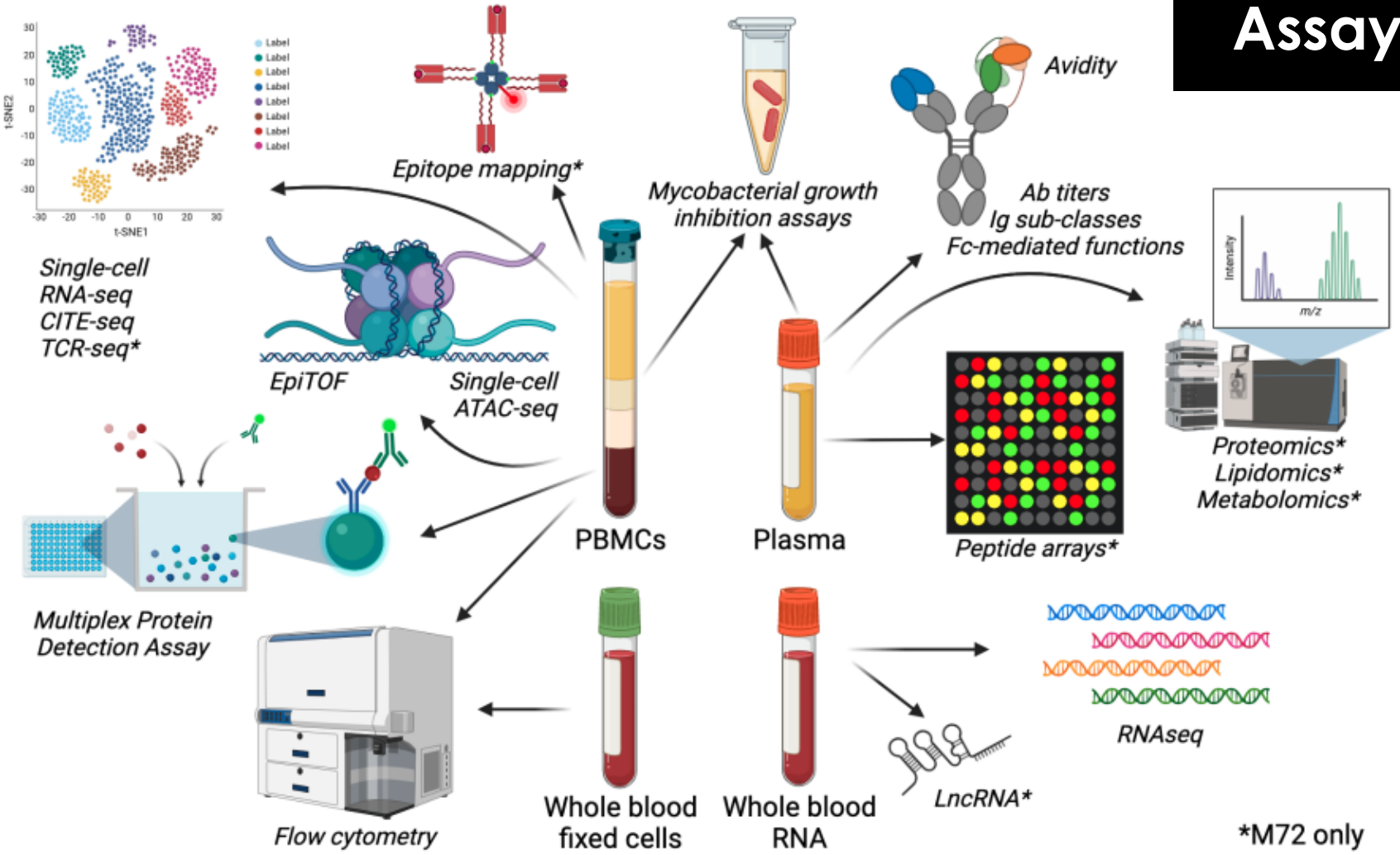


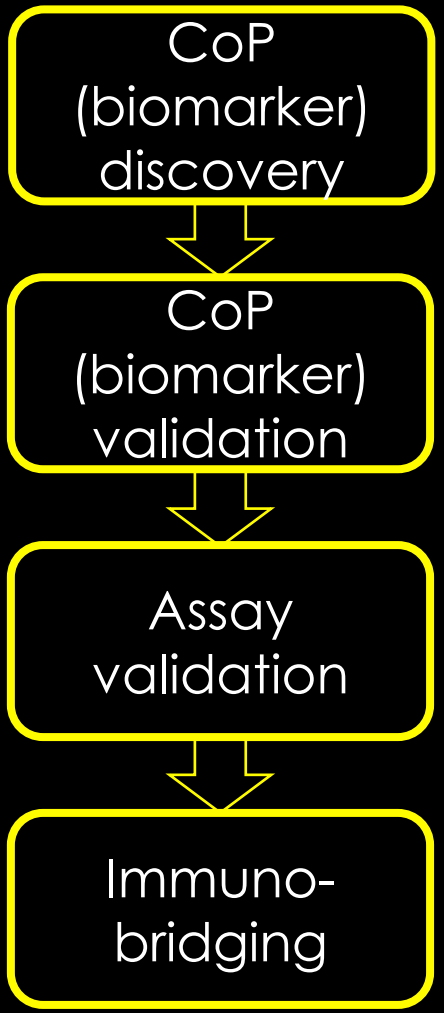
D0, D70, M6
D0, D37, M6

D0, D7 (BCG) or D3 (PI), M6
D0, D37, M6

D0, D7 (BCG) or D3 (PI), M6
D0, D37, M6

Assays


t-SNE2
t-SNE1
Label
Single-cell
RNA-seq
CITE-seq
TCR-seq*
Epitope mapping*
Mycobacterial growth
inhibition assays
Avidity
Ab titers
Ig sub-classes
Fc-mediated functions
EpiTOF
Single-cell
ATAC-seq
Intensity
m/z
Proteomics*
Lipidomics*
Metabolomics*
PBMCs
Plasma
Peptide arrays*
Multiplex Protein
Detection Assay
Flow cytometry
Whole blood
fixed cells
Whole blood
RNA
LncRNA*
RNAseq
*M72 only



What do we do in the meantime???

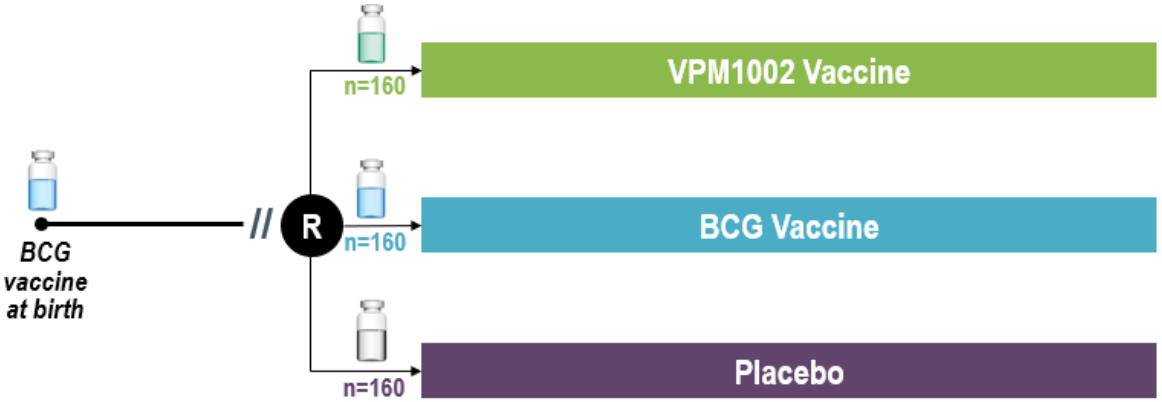
- Prepare for success!
- Develop the models
- Collect the samples

IMPAACT 2035/ HVTN 604

IMPAACT
International Maternal Pediatric Adolescent AIDS Clinical Trials Network

HIV VACCINE TRIALS NETWORK

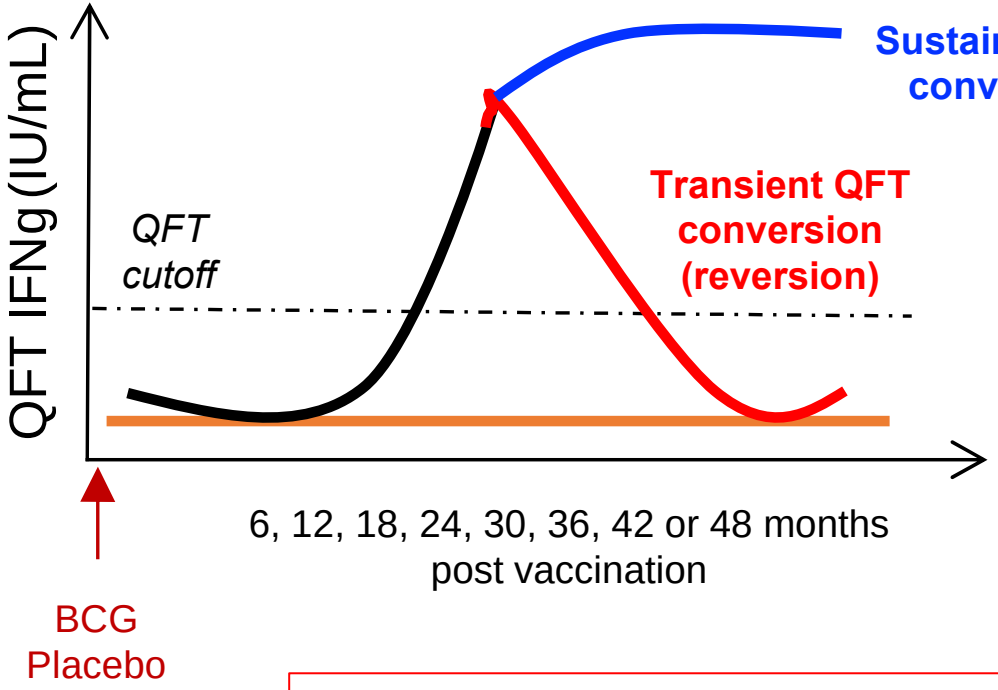
Safety and immunogenicity RCT in **10–14-year-olds**



Weeks	0	1	4	10	24	48
PBMC & Plasma	X		X	X	X	X
WB RNA	X	X	X	X		
WB fixed cells	X	X	X	X		
Serum	X	X	X	X	X	X

Sample Size N=480				
With HIV		Without HIV		Total
IGRA–	IGRA+	IGRA–	IGRA+	
40	40	40	40	160
40	40	40	40	160
40	40	40	40	160
120	120	120	120	480

BAL sampling in BCG REVAX



*	Recent QFT converters	n=60	n=60
*	QFT non-converters	n=40	n=60

* Recruited within 4 weeks of INITIAL QFT conversion
* Recruited at ANY visit, once >18 years old

satvi

satvi SOUTH AFRICAN TUBERCULOSIS VACCINE INITIATIVE

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IDM INSTITUTE OF INFECTIOUS DISEASE AND MOLECULAR MEDICINE

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