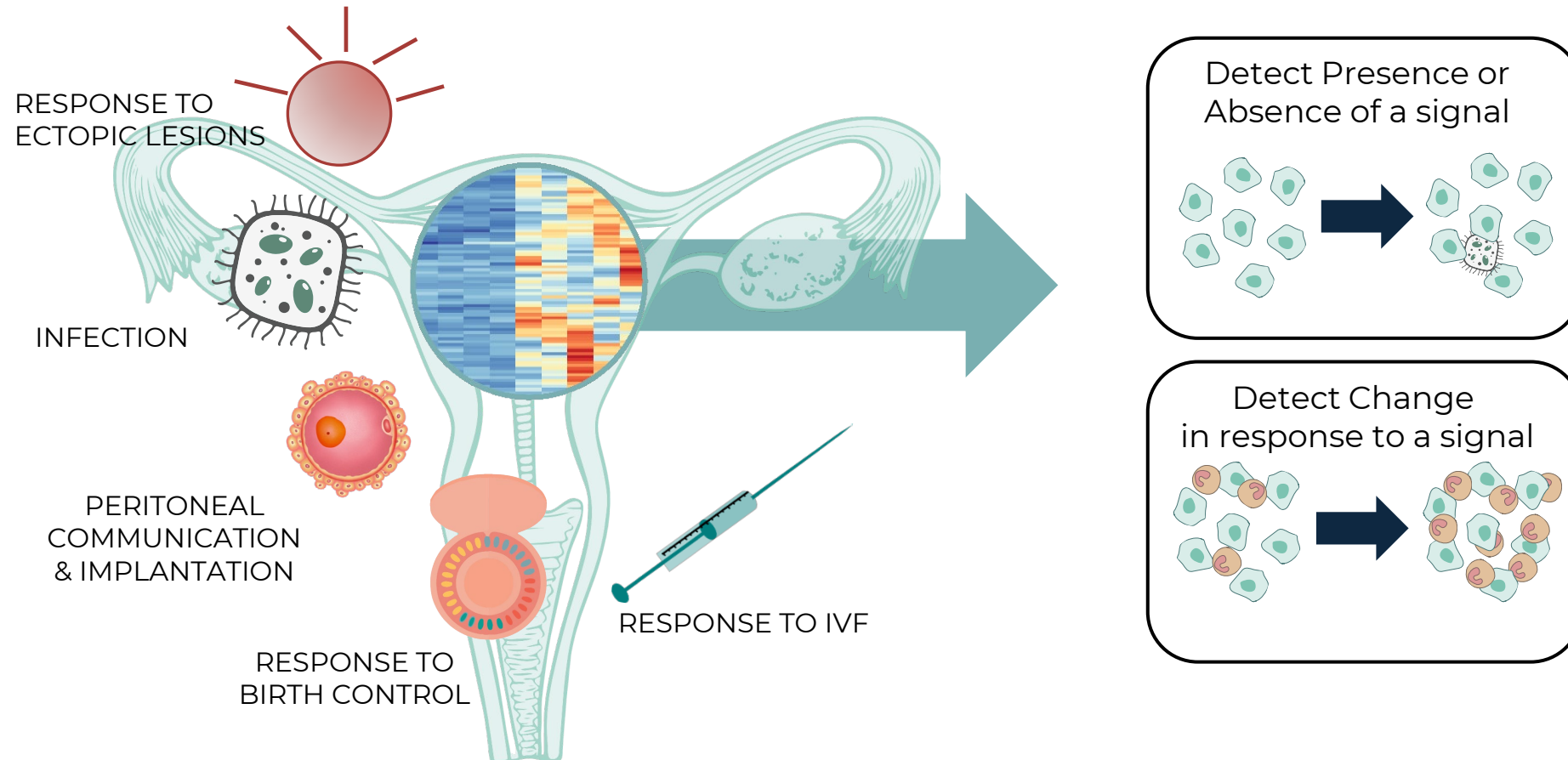




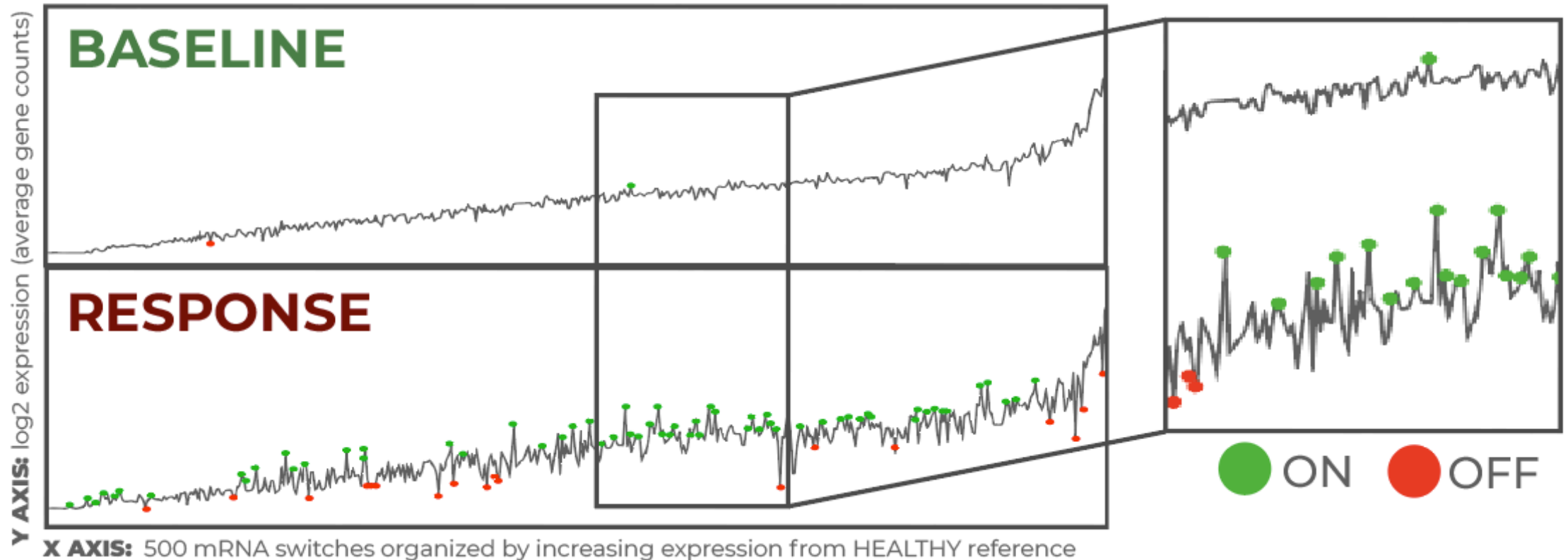
NextGen Jane (NGJ) is the menstrual data diagnostic platform enabling the next generation of gynecological health

JANE

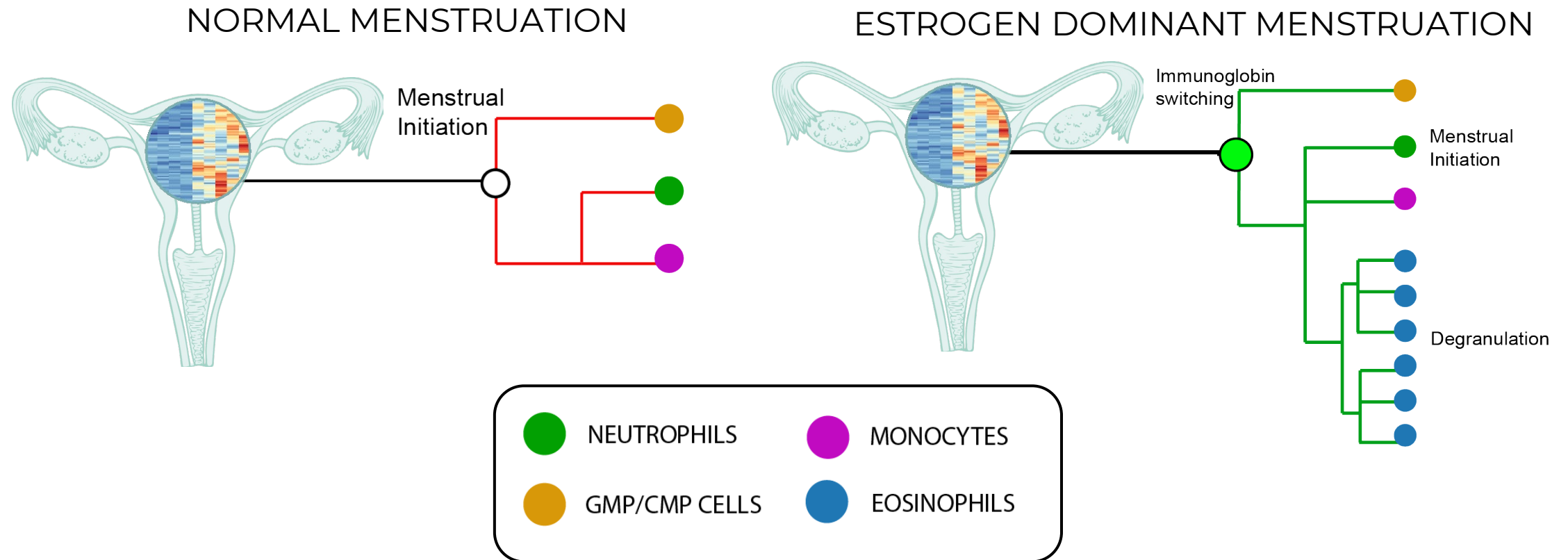
The uterus is a sensitive and responsive organ, especially attuned to changes in hormone profile



Shed endometrium (menstrual blood) can then be easily accessed to molecularly characterize "uterine response"



Different hormone contexts will produce a different uterine response

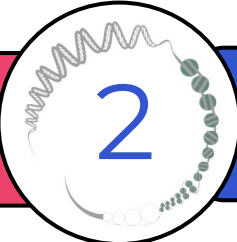


A standardized menstrual data platform will enable uterine profiling at scale

NGJ PLATFORM



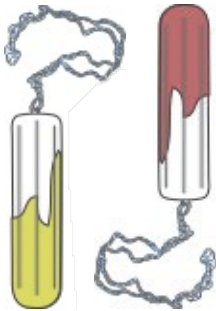
MENSTRUAL EFFLUENCE
TAMPON-BASED



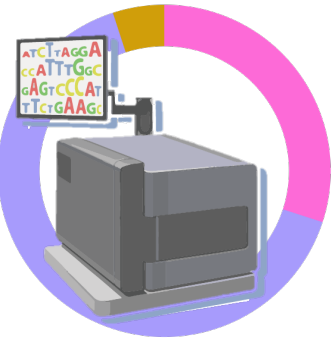
RNA-SEQUENCING
TOTAL RNA BULK SEQ



RNA ABUNDANCE
INTERPRETATION ENGINE

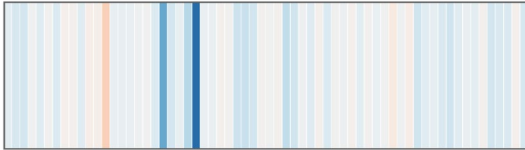


SAMPLING OVER TIME



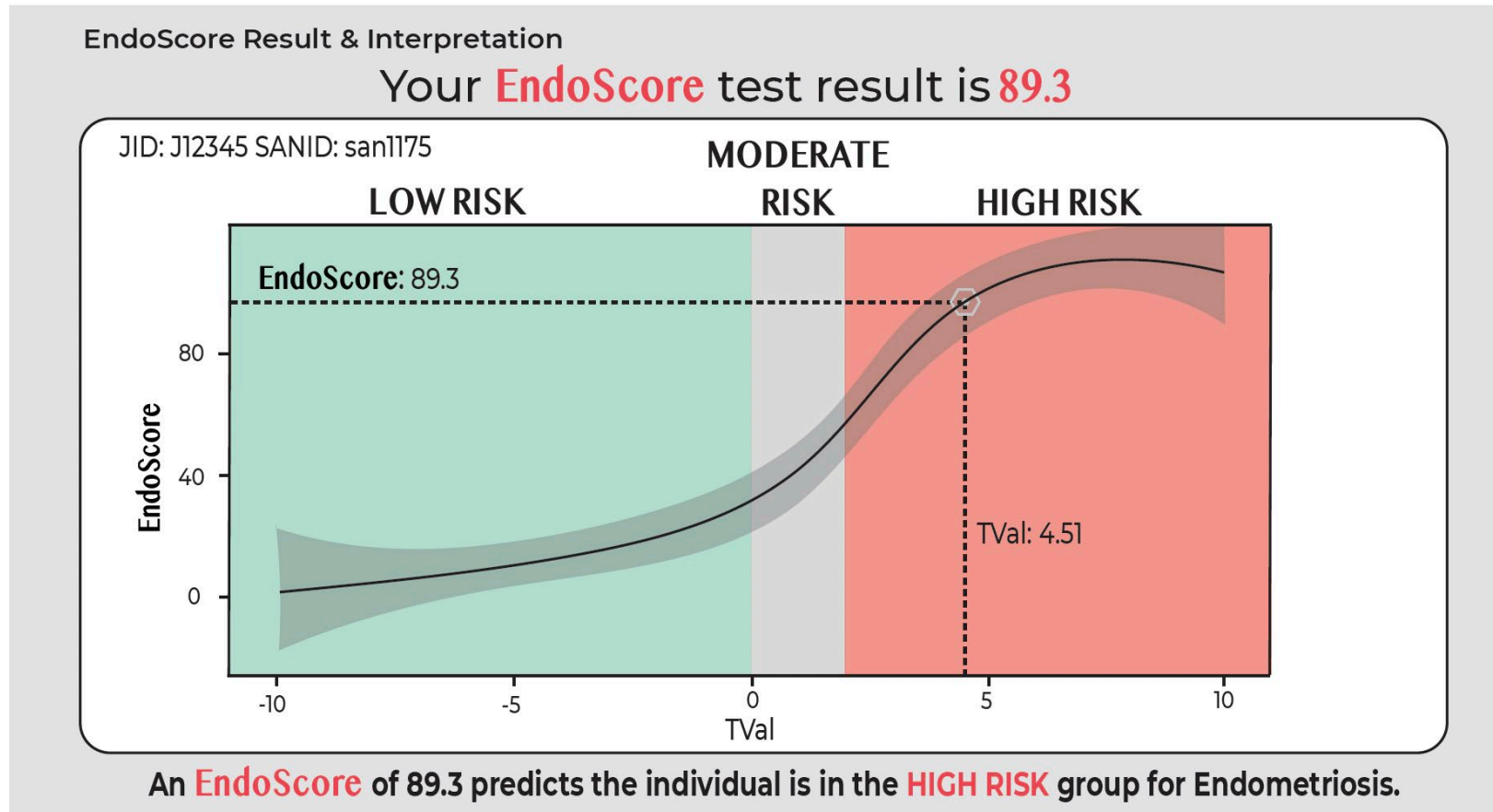
HUMAN & PATHOGEN

- Microbes
- Human
- Other

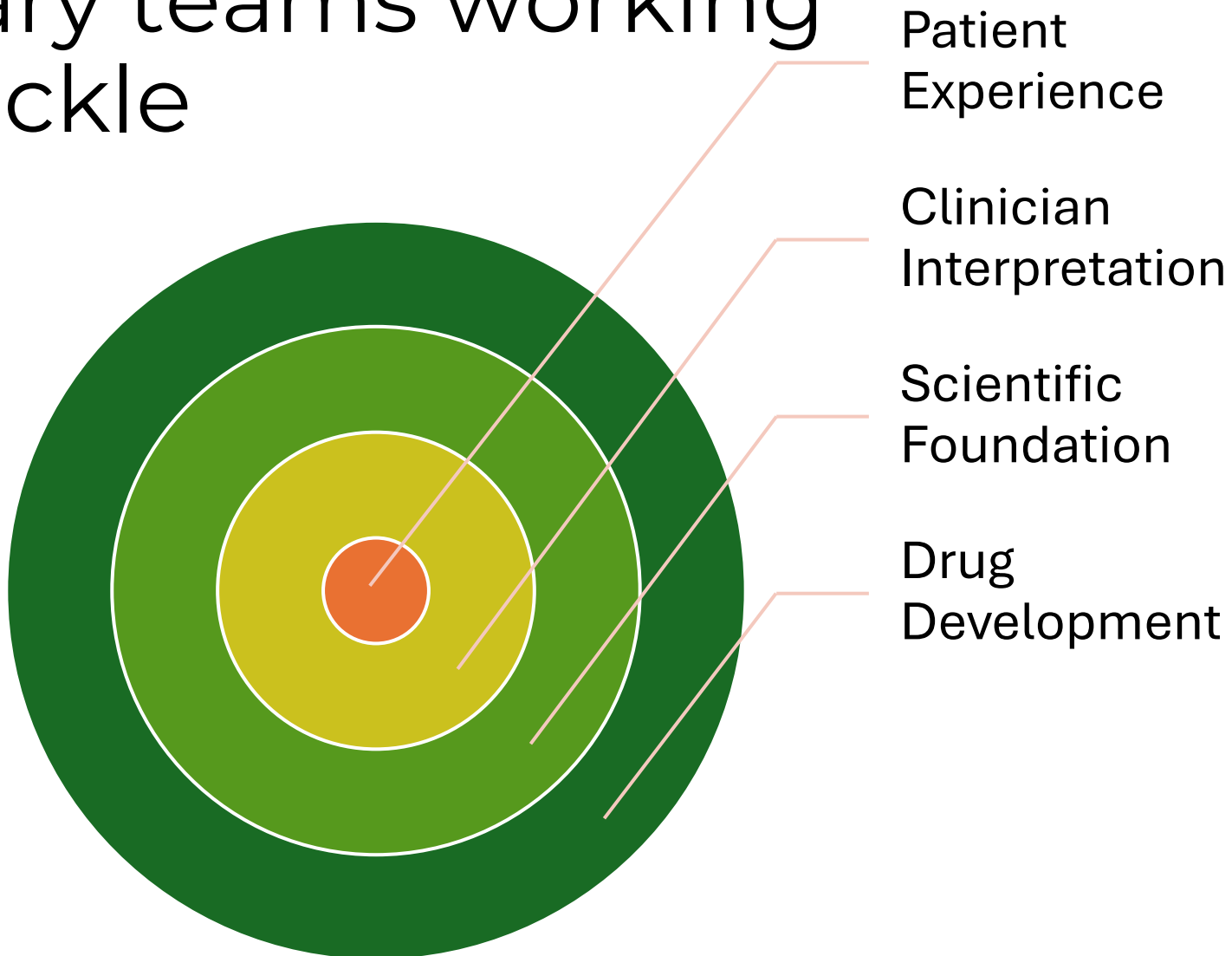


64 CELL-SPECIFIC SIGNATURES
FROM ~500 GENE MODULES

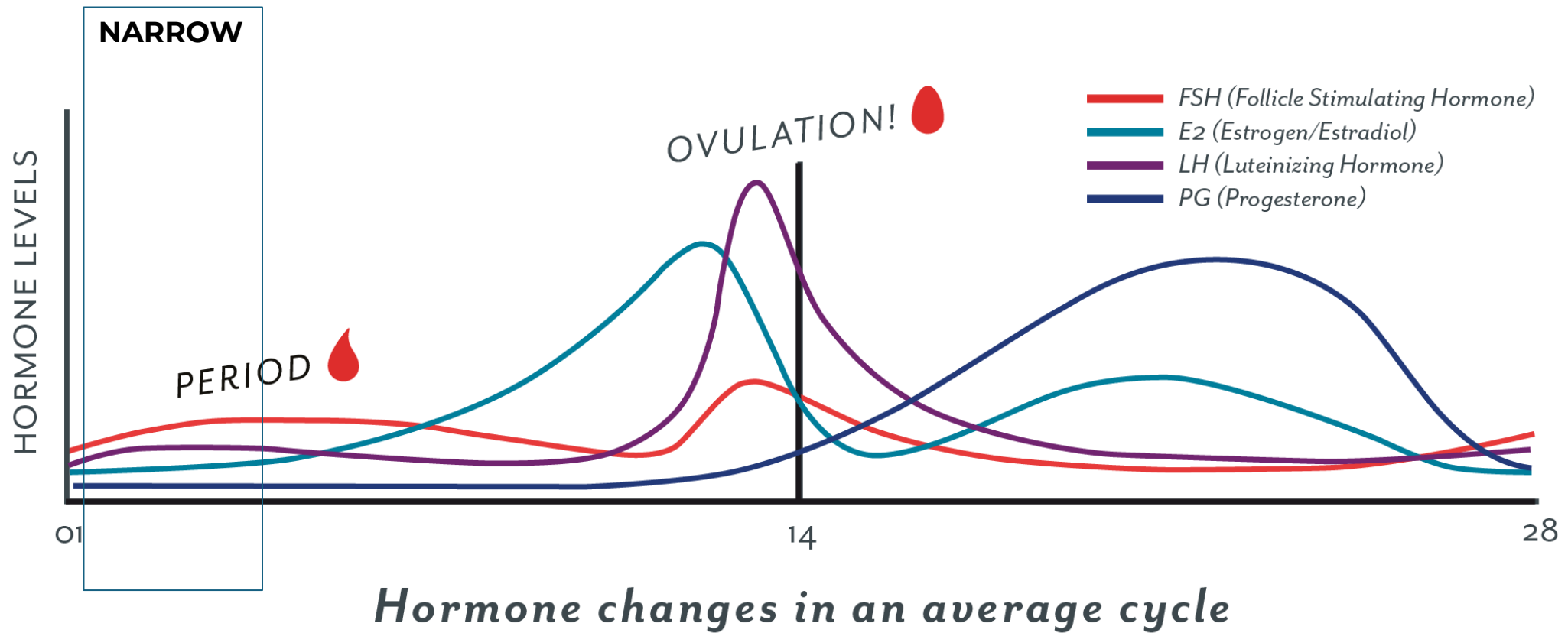
A near term goal is to find a predictably altered uterine response to 'endometriosis'



A complex condition such as endometriosis will take interdisciplinary teams working together to tackle

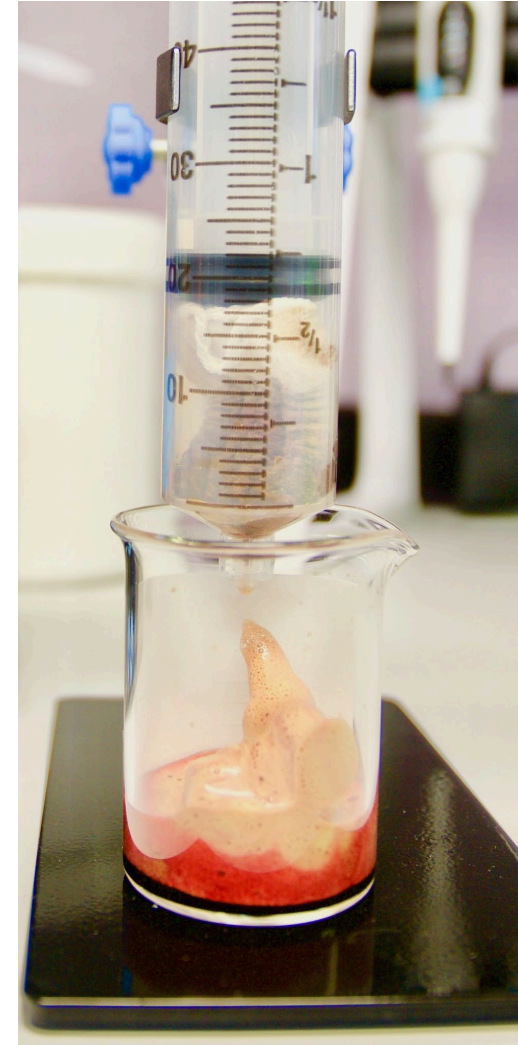
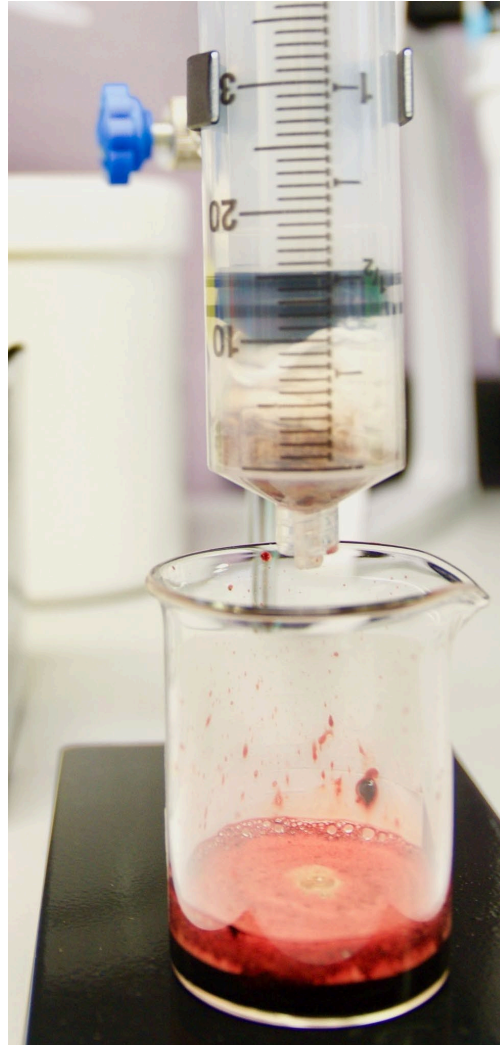


The Big Challenge in Studying Female-Born Bodies: the Hormone Cycle



Challenges in collecting menstrual effluence

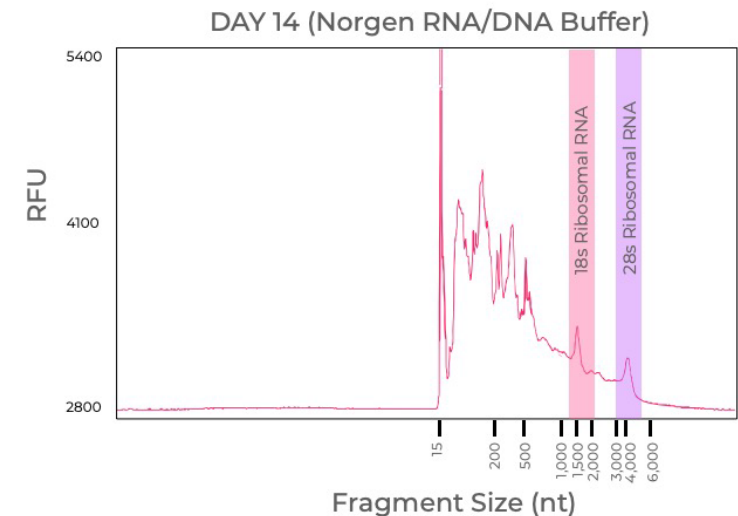
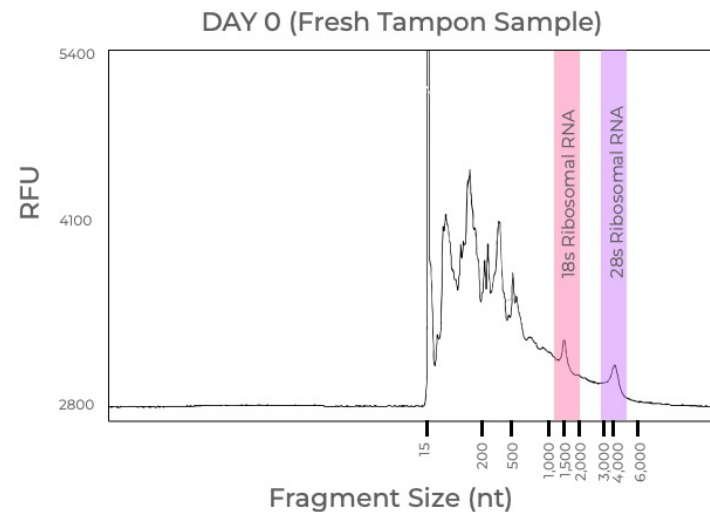
- Tampon vs pad vs menstrual cup
- Reducing variability
- Extracting material from a tampon
- Eliminating cold chain



Easy, at-home, longitudinal sampling

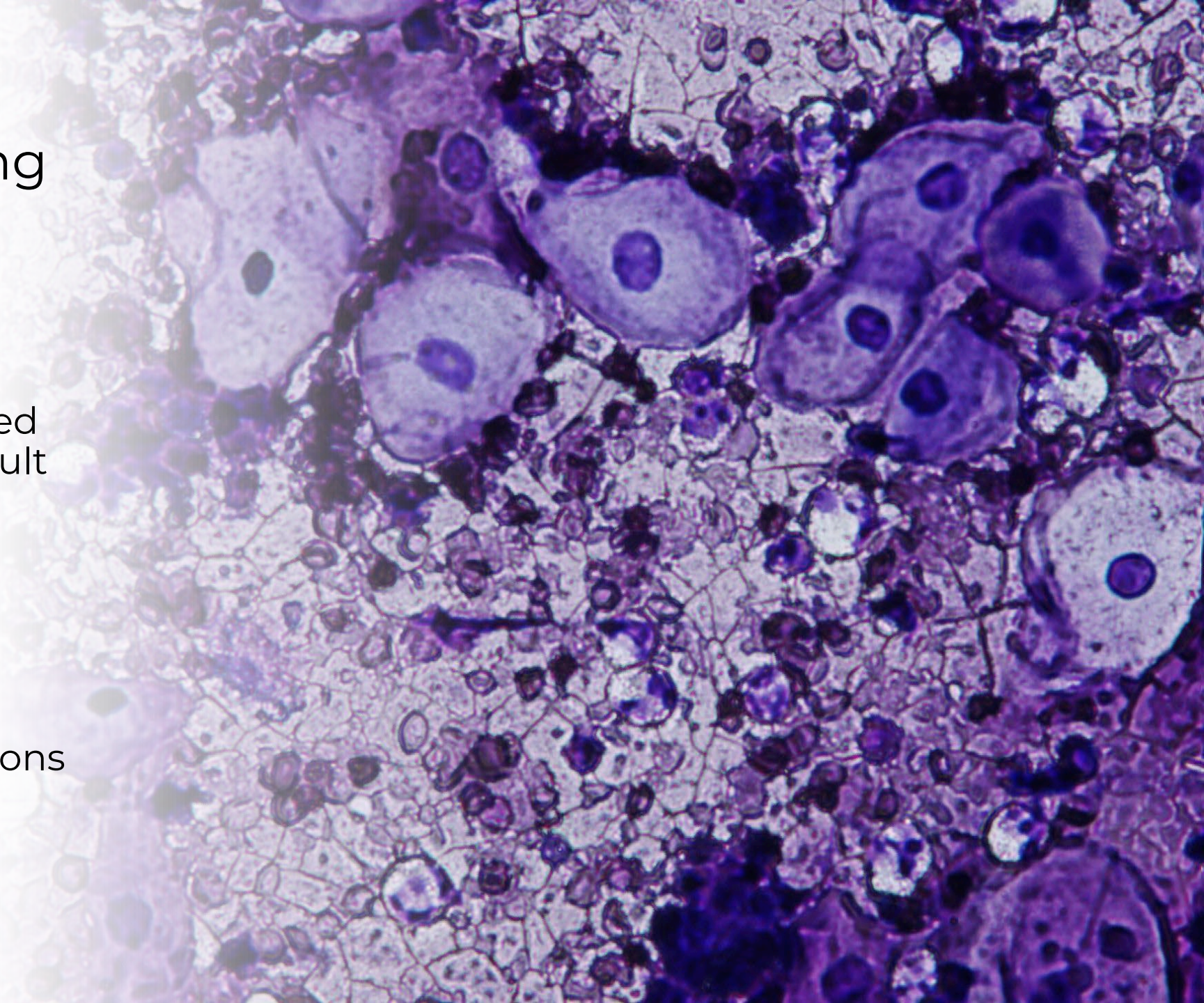


RNA quality of menstrual blood on tampons over 14 days of room temperature preservation with RNA/DNA preservation buffer shows near perfect preservation of ribosomal subunits, with similar yields of RNA between timepoints



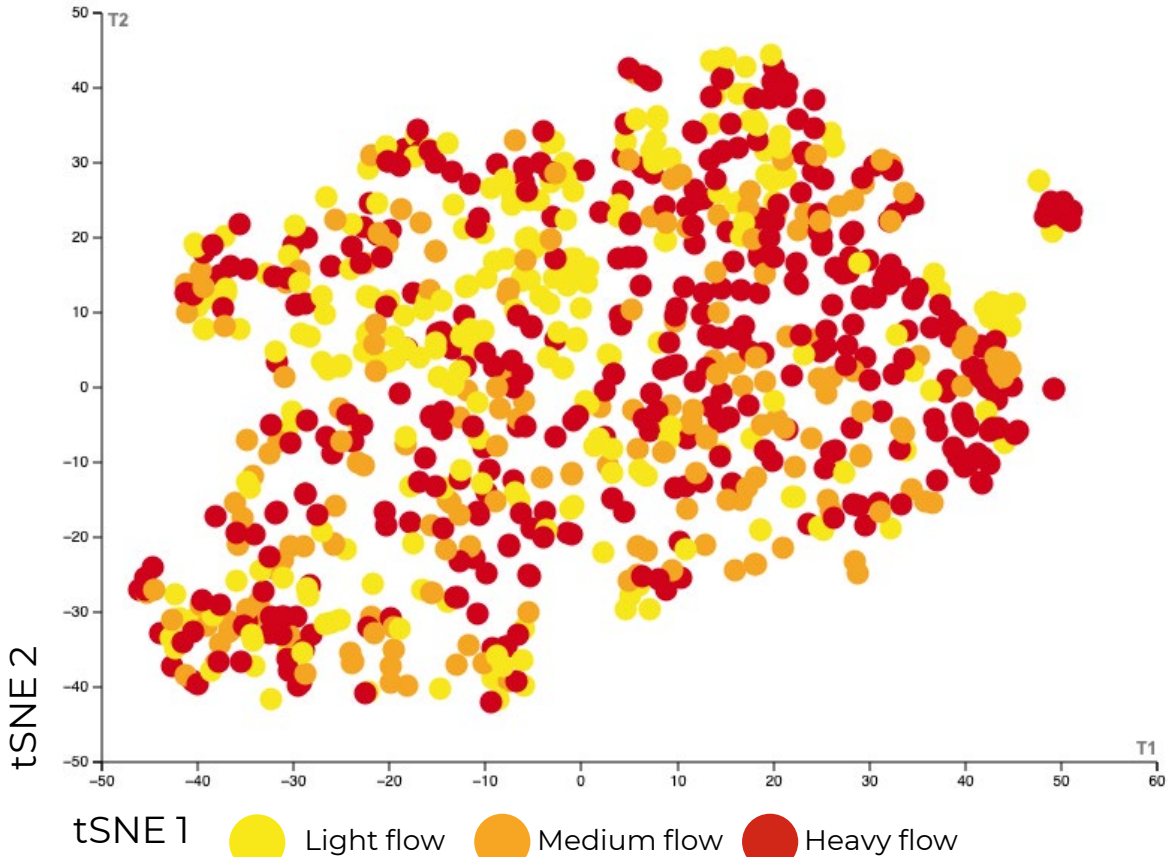
Challenges in sample processing and data normalization

- Novel sample type, contains mucus, clotted tissue, making it difficult to handle
- Heterogenous
- Varying levels of degradation
- Differing tissue compositions in tampons



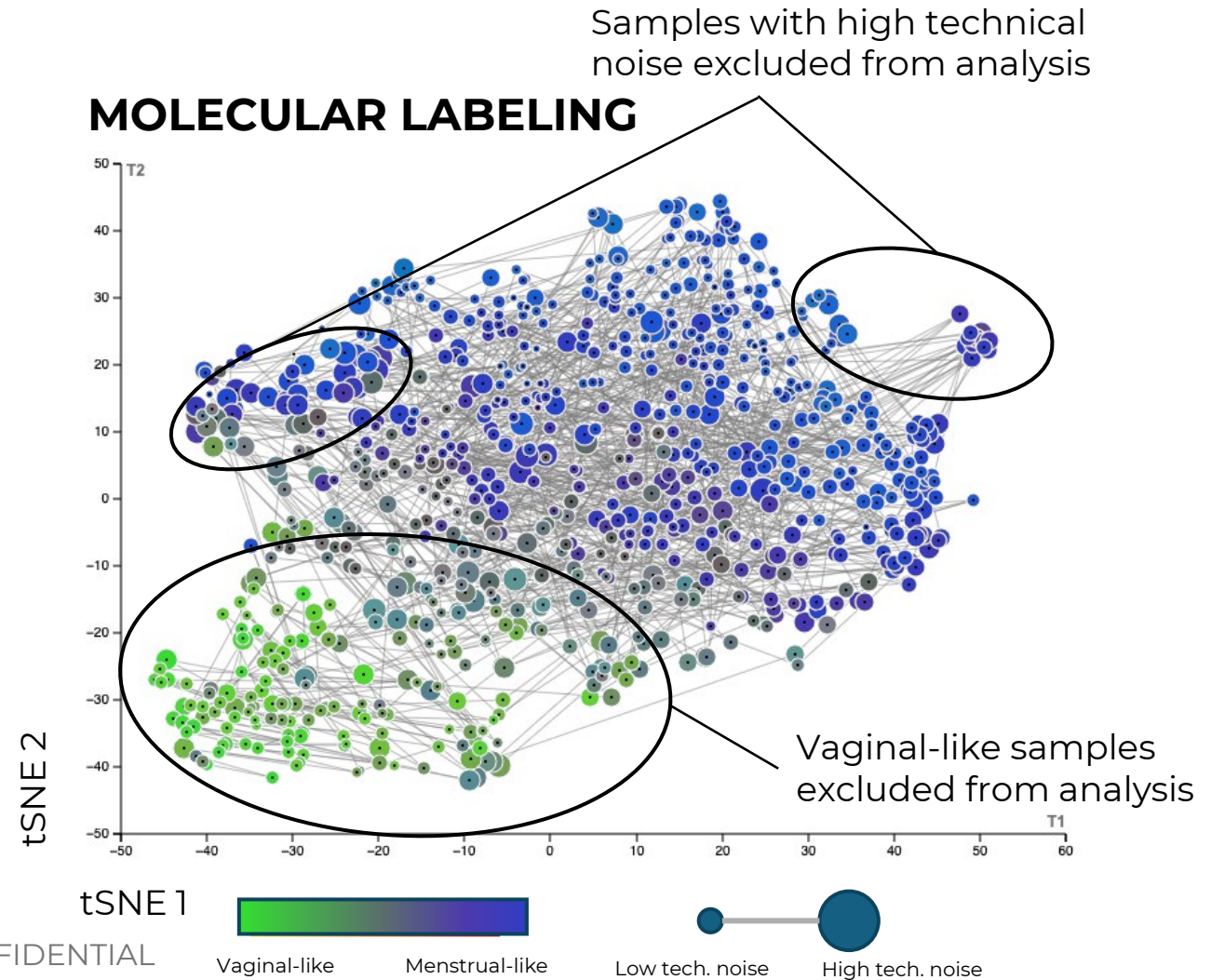
Bioinformatic strategies can normalize for contributors to heterogeneity in the sample type

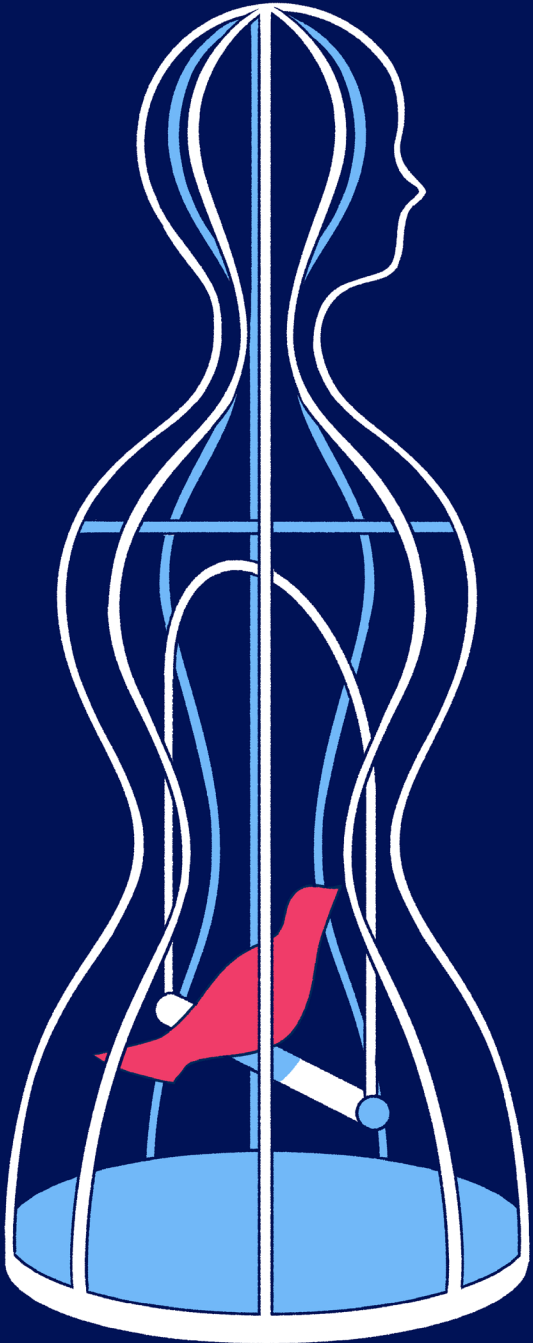
SUBJECTIVE LABELING



11/23/2024

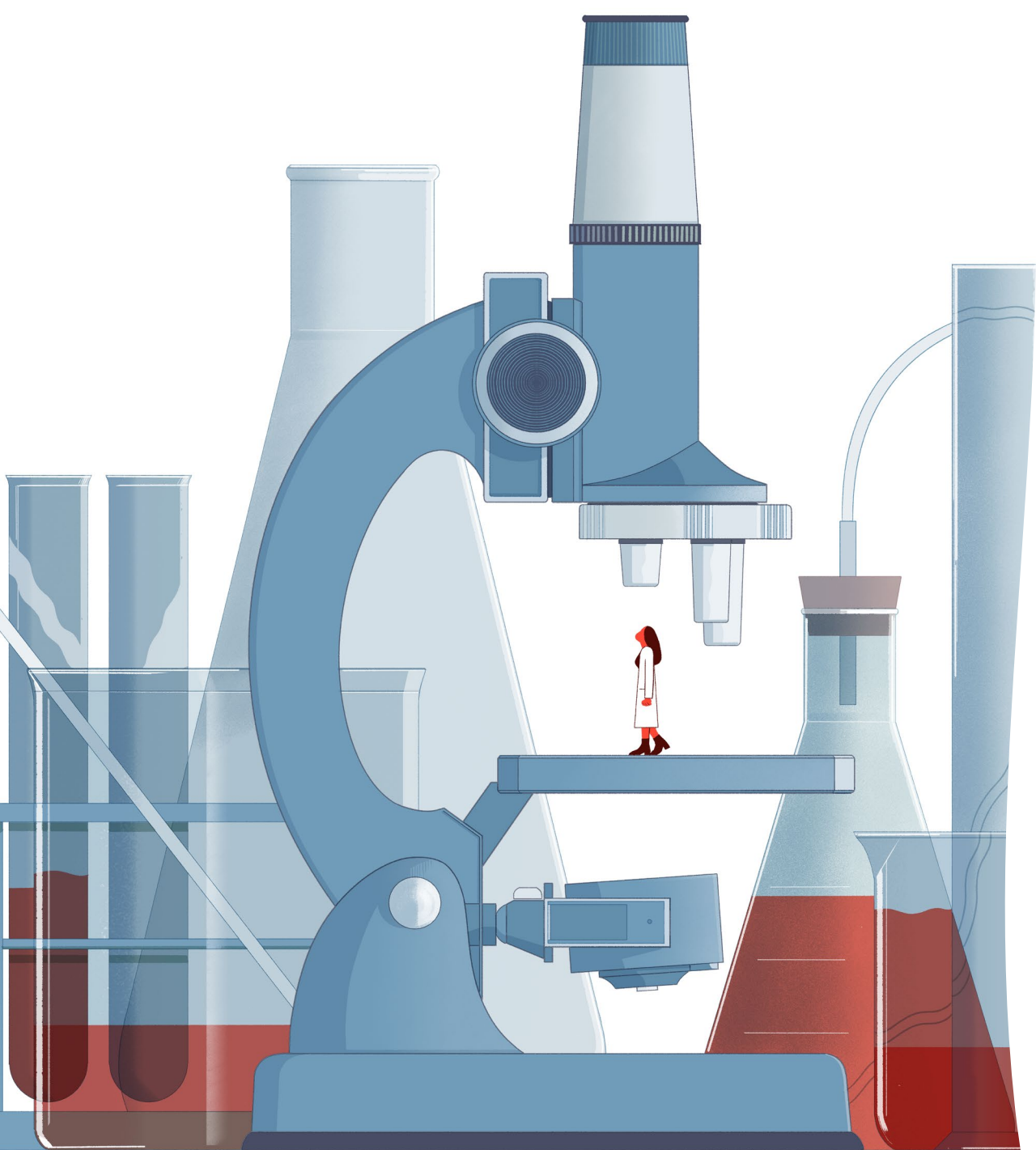
MOLECULAR LABELING





Challenges in defining a case

- Gold standard
- Histopathological confirmation
- Who gets laparoscopy?
- 1 biopsy out of 20?
- If endo positive 3 years ago, are you still a case?
- How do we think about someone who had a surgical confirmation before and is symptomatic again?
- Enrichment of co-morbidities



Challenges in defining a control

- Scarcity of "true endo negative"
- If endo negative 3 years ago, are you still a control?
- Silent / Subclinical endometriosis
- Complex patient population with many co-morbidities

Challenges in commercialization

- Diagnostic reimbursement for reproductive aged women (12 to 18 month window for ROI)
- Lack of effective therapies
- Difficult to fund through traditional private capital
- Appropriate call point—pediatricians?
- Novel sample types historically have more regulatory burdens

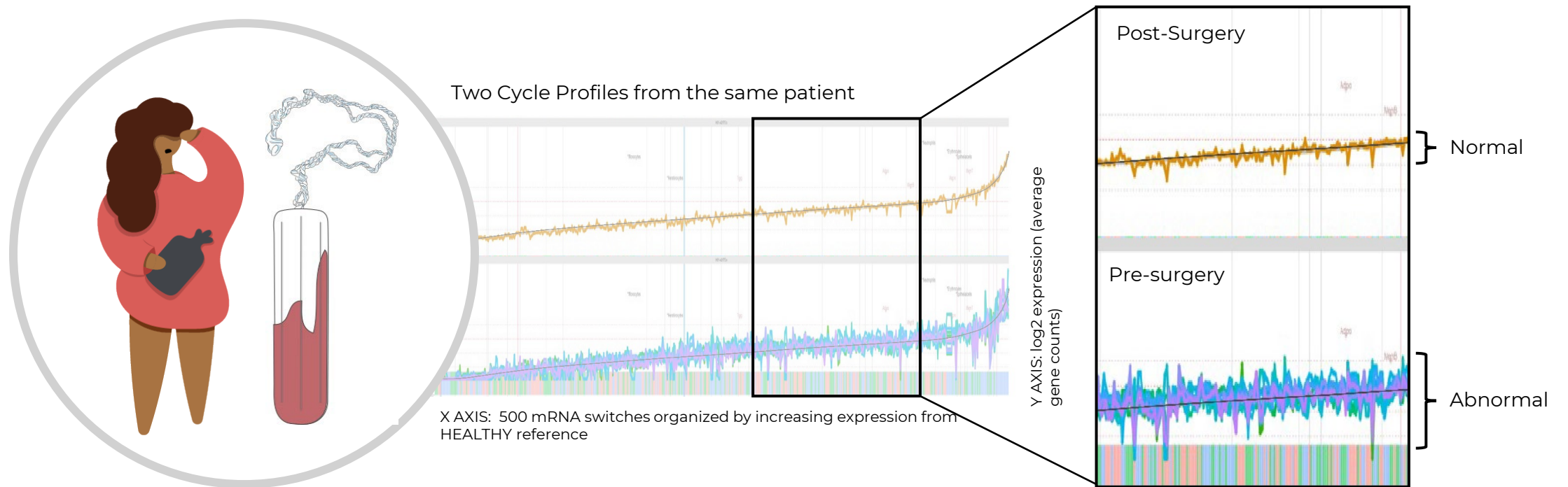


Importance of research

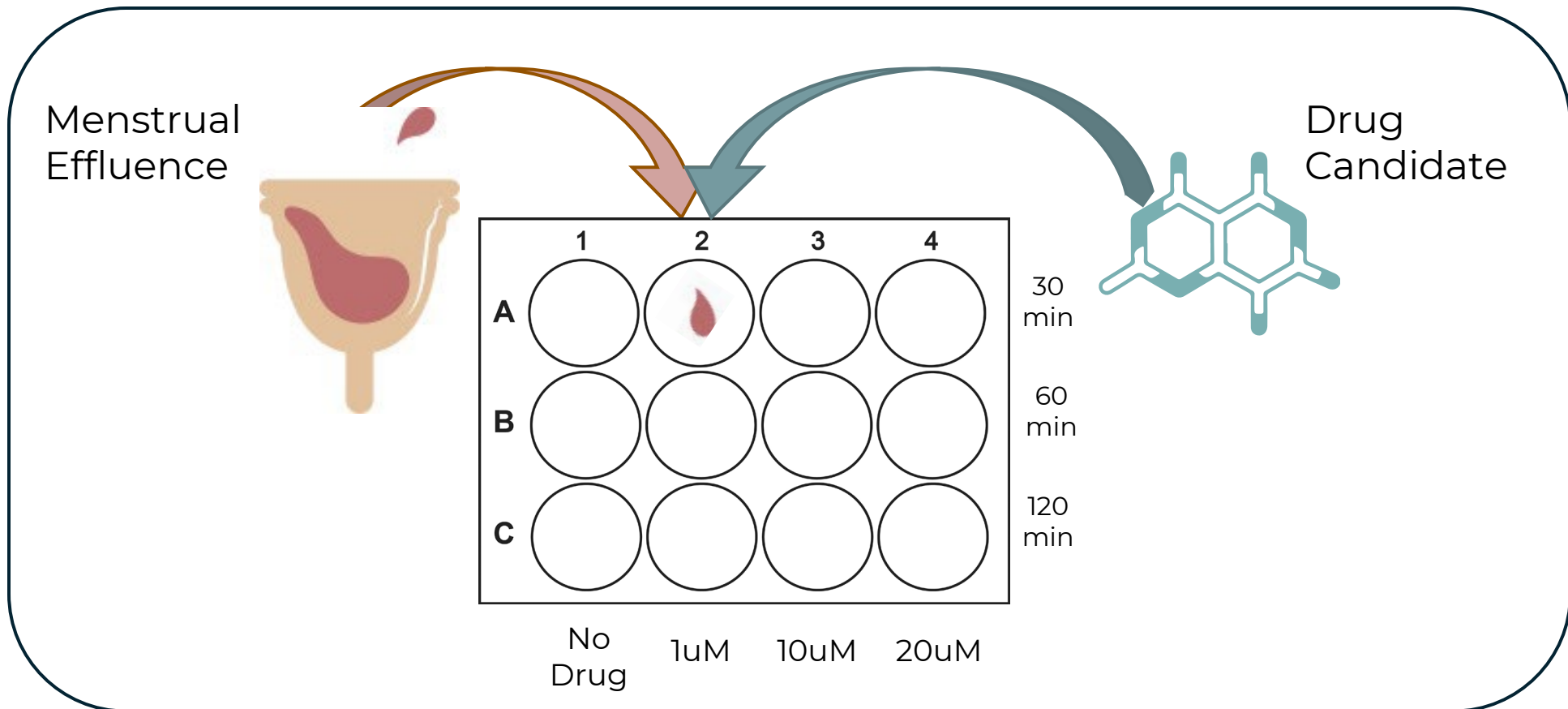


- Quality of life (absenteeism, presenteeism, loss of productivity, depression)
- Infertility
- Ovarian cancer
- Pre-eclampsia
- Pre-term labor
- Footprint of disease (>10% of all female-born bodies)

An effective platform will enable us to evaluate if a therapeutic intervention is working



Opportunities for pre-clinical impact: patient derived cells for drug therapy response



All of this is driven by and dependent on the number of people participating in the research.
THANK YOU!

