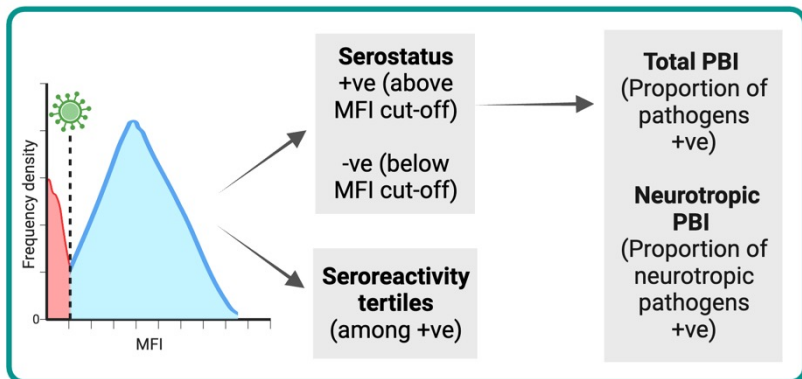# Antigen seroreactivity values for 17 pathogens in three population-based studies: MRC NSHD, SABRE, and UKB
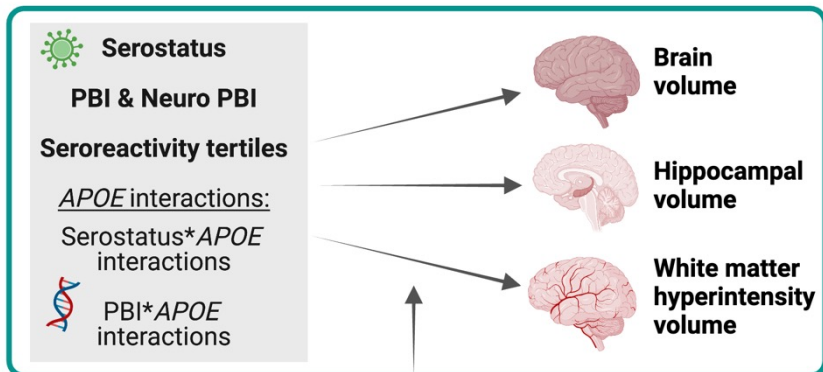
- **Herpesviruses**
- **Human Papillomaviruses**
- **Human Polyomaviruses**
- **Bacteria/Protozoa**

Step 1: Derive serology measures.

Serostatus
+ve (above MFI cut-off)

-ve (below MFI cut-off)

Seroreactivity tertiles
(among +ve)

Total PBI
(Proportion of pathogens +ve)

Neurotropic PBI
(Proportion of neurotropic pathogens +ve)

Step 2: Per-study analyses.
Test associations of serology measures with imaging outcomes, as well as interactions by APOE e2 and e4 genotype.

Serostatus

PBI & Neuro PBI

Seroreactivity tertiles

APOE interactions:
Serostatus*APOE interactions

PBI*APOE interactions

Brain volume

Hippocampal volume

White matter hyperintensity volume

Model 1: Technical covariates (including total intracranial volume)
Model 2: Model 1 + age + sex (+ ethnicity for SABRE & UKB)
Model 3: Model 2 + alcohol intake + educational attainment + socioeconomic position + BMI + smoking
APOE interactions: Models 1-3 + 10 genetic principal components.

Step 3: Meta-analyse findings using random-effects models.
(Main analyses total N=2632; APOE interactions total N=1810).