

**A5333s:**

**Mechanistic Sub-study of A5332:  
Randomized Trial to Prevent Vascular  
Events in HIV (REPRIEVE)**

# Study Background & Objective(s)



## **Background:**

- It is well-known that people living with HIV are at increased risk of cardiovascular events, including heart attacks and strokes
- Little is understood about prevalence, extent of atherosclerosis in heart blood vessels and associated biological factors

## **Study Objective:**

- The Mechanistic sub-study of REPRIEVE was designed to specifically identify factors that contribute to cardiovascular disease among people living with HIV
- REPRIEVE is the largest study of cardiovascular disease among people living with HIV

## **Study Population:**

- 755 participants living with HIV who were considered to be at low-to-moderate risk of future heart disease
- Ages 40 to 75 years old
- Enrolled at 31 sites across the United States

# Key Findings

- Study used coronary CT angiography to assess amount of plaque in participants' coronary arteries
  - Correlated findings with blood samples that measured inflammation and immune activation
- 49% of participants had plaque in their coronary arteries
  - Plaques mostly seen in a few areas of coronary arteries
- Presence of plaque was associated with higher burden of risk factors and higher levels of inflammation, independent of traditional risk scores
- Plaque was mild, did not cause narrowing of >50% percent of coronary artery in 97% of participants
- 23% of participants had plaque with features that could potentially cause problems in the future ("*vulnerable plaque*")

# Importance & Next Steps



- Approximately half of study participants, who were considered by traditional measures to be at low-to-moderate risk of future heart disease, had atherosclerotic plaque in their coronary arteries
  - These findings significantly expand our knowledge
- Clinical significance of plaque in asymptomatic people with low cardiovascular risk is unknown
- REPRIEVE will follow participants to determine if:
  - Plaque reported in this sub-study is clinically significant
  - Whether statin therapy can reduce plaque and markers of inflammation
  - If statin therapy can reduce the incidence of heart attacks and strokes