

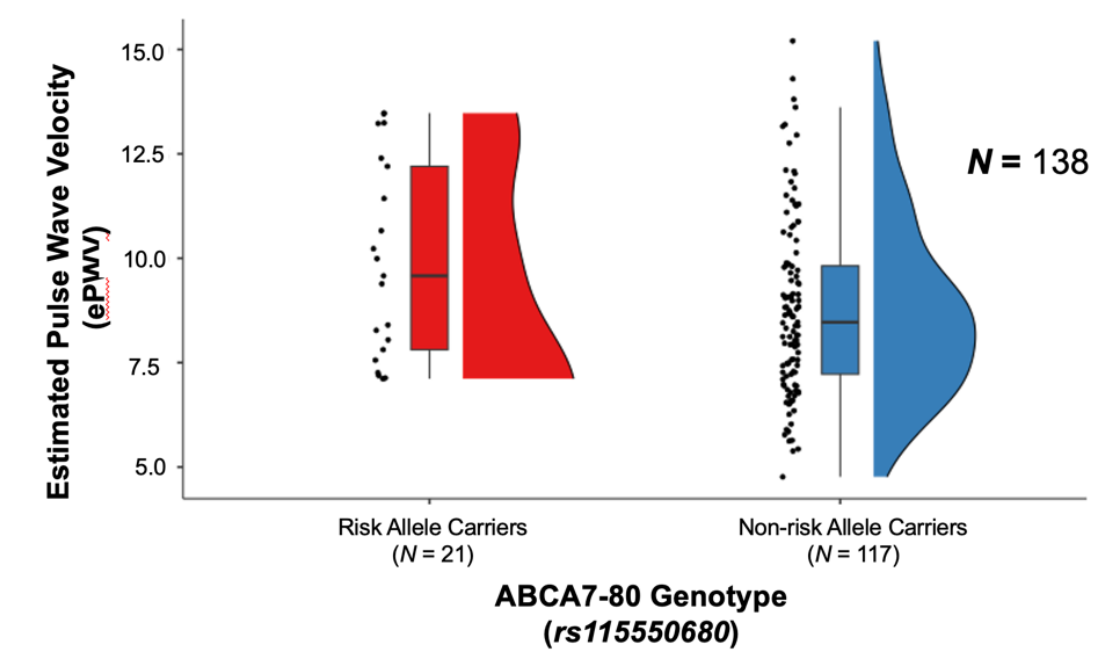
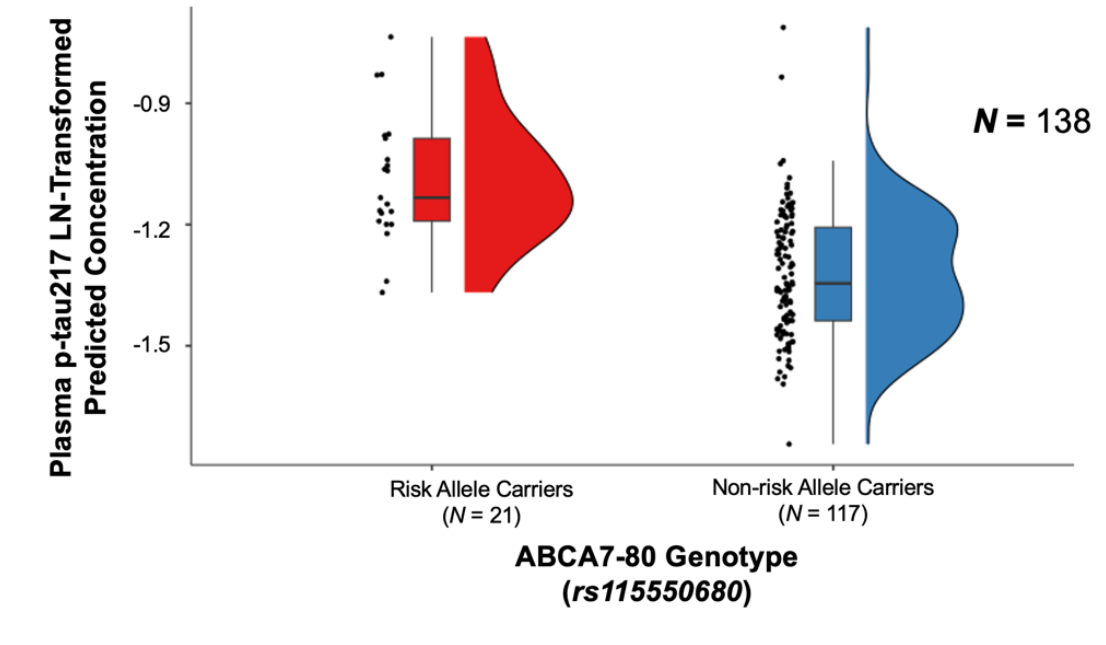
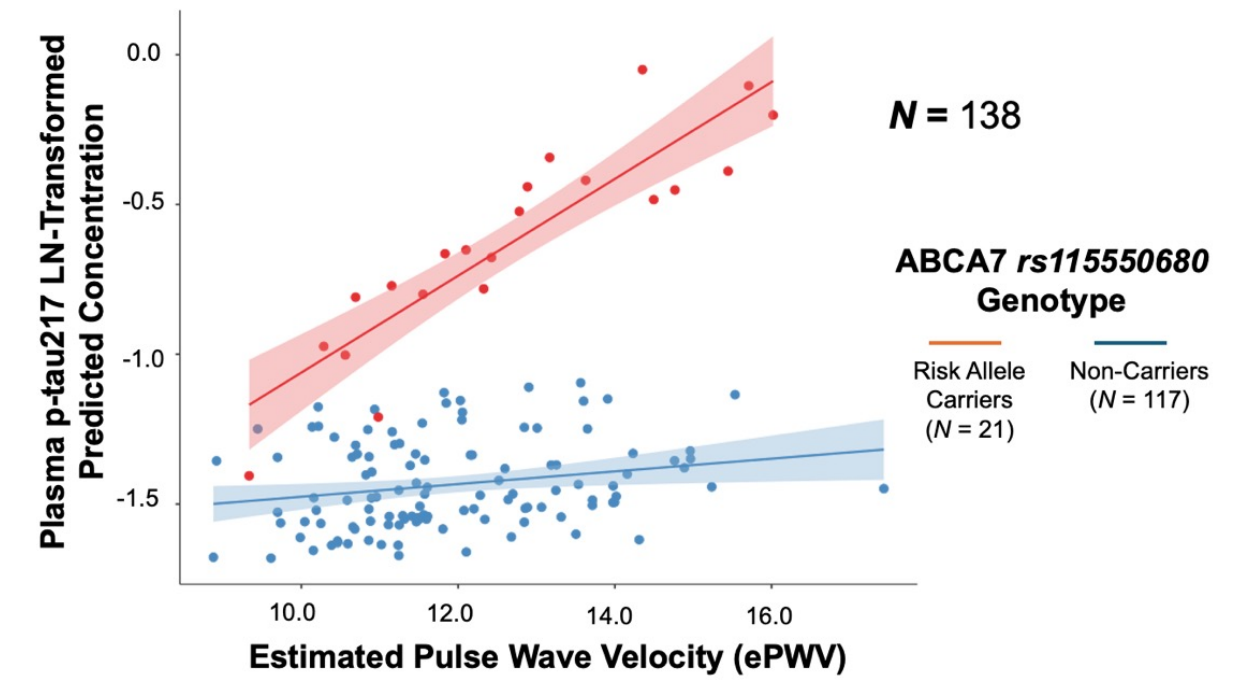
ABCA7 80, But Not APOE ε4, Moderates The Relationship Between Vascular Stiffness And Plasma P Tau217 Among Older African Americans

P12019

Miray Budak¹, Kevin S. Heffernan², Martina Ishaq¹, Demiana Abdalla¹, Victoria Paruzel¹, Soodeh Moallemian¹, Bernadette A. Fausto³, Fanny M. Elahi⁴, Mark A. Gluck¹

1- CMBN, Rutgers University, Newark, NJ, USA; 2- Teachers College, Columbia University, New York, NY, USA; 3- Department of Health Science & Clinical Practice, Thomas Jefferson University, Philadelphia, PA, USA; 4- Icahn School of Medicine at Mount Sinai, New York, NY, USA.

- African American ABCA7-80 risk allele carriers show poorer vascular health
- African American ABCA7-80 risk allele carriers show higher plasma p-tau217
- ABCA7-80 moderates the vascular health–p-tau217 relationship
- APOE-ε4 does not modify the vascular health–p-tau217 associations
- Compromised vascular health may accelerate tau pathology in vulnerable individuals

INTRODUCTION	METHODS	RESULTS	RESULTS – cont.	CONCLUSIONS
Compromised vascular health is increasingly linked to Alzheimer’s disease (AD) risk. Estimated pulse wave velocity (ePWV), derived from age and blood pressure, provides a practical, noninvasive index of vascular stiffness and overall vascular health. Older African Americans experience a disproportionate burden of vascular disease and AD. Genetic risk factors such as APOE-ε4 and ABCA7-80 (rs115550680) further increase AD susceptibility. However, whether these genetic risks influence vascular stiffness and how that may interact with AD pathology remains unknown, especially in African Americans.	A total of 145 older African Americans (mean age=71.18±6.83 years;110 women) were included. We examined the effects of both ABCA7-80 and APOE-ε4 genotypes on ePWV and plasma p-tau217. All regression models controlled for sex, education, pulse pressure, waist-to-hip ratio, global cognition, hypertension status, and APOE genotype (APOE genotype only used for ABCA7-80 regression models).	 ABCA7-80 risk allele carriers exhibited higher ePWV ($F_{(1,120)}=8.16$, $p=.005$, $\eta^2_p=.064$)  ABCA7-80 risk allele carriers exhibited higher p-tau217 levels ($F_{(1,120)}=30.11$, $p<.001$, $\eta^2_p=.201$).	APOE-ε4 allele carriers also showed higher p-tau217 levels ($F_{(1,128)}=12.96$, $p<.001$, $\eta^2_p=.092$). ABCA7-80 significantly moderated the relationship between ePWV and p-tau217 ($F_{(1,118)}= 4.40$, $p=.038$, $\eta^2_p=.036$), such that higher ePWV was associated with higher p-tau217 among ABCA7-80 risk carriers ($\beta=0.52$, $t_{(118)}=2.69$, $p=.008$). 	ABCA7-80, but not APOE-ε4, heightens susceptibility to tau-related effects of compromised vascular health among older African Americans. These findings highlight vascular health as a modifiable target for reducing AD risk in African Americans. CONTACT Miray Budak, PhD miray.budak@rutgers.edu Mark A. Gluck, PhD gluck@rutgers.edu 