

Supplemental Material

Table S1. Full data set for WHICAP variant calling (*excel file*).

Table S2. Number of WHICAP *LPA* KIV2 Variants and appearance frequencies compared to 1000 Genome Cohort.

Table S3A: Ancestry carrier frequencies for WHICAP variants with significant associations to metabolic risk factors

Table S3B: Association of *LPA* KIV-2 variant vs. metabolic risk factors in WHICAP (*excel file*)

Table S3C: Association of *LPA* KIV-2 variant vs metabolic risk factors in WHICAP, adjusted by *LPA* KIV-2 CN (*excel file*)

Table S3D Linkage Disequilibrium between *LPA* KIV-2 variants significantly associated with hypertension (excel file)

Table S4: Association of *LPA* KIV-2 CN vs. *LPA* KIV-2 variants in WHICAP (excel file)

Table S5: Association of *LPA* KIV-2 CN with metabolic risk factors

Table S6. Baseline Characteristics: Pilot validation study

Table S7. Individual characteristic pilot cohort

Table S8. *LPA* KIV2 variant association with weighted isoform size (**S8A**) and Lp(a) serum levels (**S8B**) in Pilot Study individuals (N=27) (excel file).

Figure S1. WHICAP *LPA* KIV-2 Rare and Common Variants

Figure S2. Sex and ancestry distribution of exonic and intronic variants.