

ARTICLE

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OPEN

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LDL-C levels were significantly higher in individuals with ...

1. ... 2. ... 3. ... 4. ... 5. ...

P

(LDL-C), (HDL-C),

1,2

U

A + DNA

S

DNA

H

I

DNA

I

W

fi (>20

(WGS)

(SNP)

T WGS

M (TOPM) (SD) >20 EST
 FIN (SD) (F. 2). T (SD) >30
 29.8(5.4)X. 37.1(5.4) >20

A. 189
 T
 (F. 2). A MESA
 OOA
 T (3). T
 19
 3,391,000, 4878

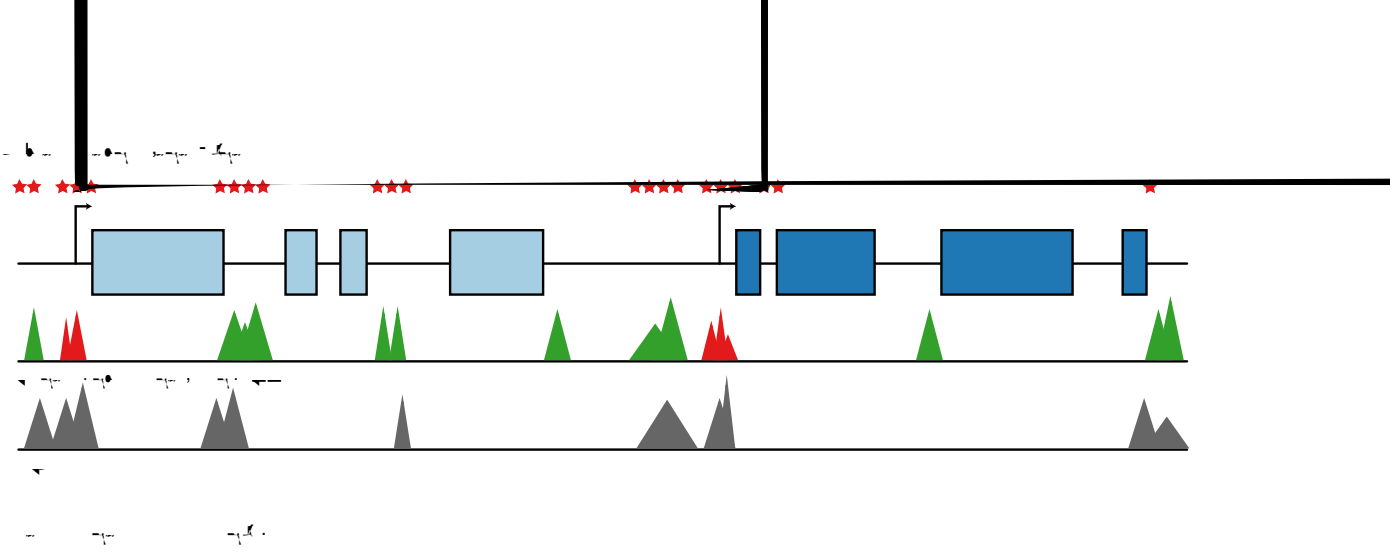
Common plus low-frequency variant association study. W fr.

W
 (MAF) >0.1%
 WGS >16 FHS/

T (MAF = 0.090–0.69% (F₁ = 8). T
 M (S, K, A, T) (SKAT)^{11,12}. S (α = 0.05/
 20,000) (LDL-C, APOB, PCSK9, APOE, LDL-C, LCAT, HDL-C, APOC3
 E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z).
 T (9).

Rare variant association study of non-coding variants. N #,

W (F₁ = 3). F₁ = 3
 S (13,14) (20) (5) TSS (T)



1 - 2 - 3

4 -

A (AA) LDL-C, 7.43 (95% CI 3.01-18.35) / LDL-C, 3.2 (95% CI 2.1-4.89). I(AA) LDL-C (EA) LDL-C (EA) LDL-C, 3% / LDL-C, 13% / LDL-C, 15.5 / LDL-C (EA) (P=4.10⁻²⁷⁷) / LDL-C, 8.7 / LDL-C (AA) (P=1.10⁻⁴⁷).

W LDL-C, ARIC

A (ARIC-EA (N=7755)) LDL-C, 7.35 (95% CI 5.95-9.10; P<2.10⁻¹⁶) / LDL-C, 42.8 / (95% CI 40.0-47.5; P<2.10⁻¹⁶)

28
W
9 24.1 HDL-C. W
H M
L LDL-C
A

MA), 3266 JHS, U. W.
N. G. C. (S... , WA). A. 4601 MESA;
TOPMED P. 2. A. 1180 F. FINRISK; 2281 E.
B. I. H. MIT
(C , MA). T.
TOPMED 1 BAM fi
TOPM I. R. C. (IRC)
G. 37 5. 37. B. 1000
"G.C."

Musical score for TSS, E, W, and TSS. The score is written on a grand staff with treble and bass clefs. It includes various musical notations such as notes, rests, and dynamic markings. The markings include **T**, **TSS**, **E**, **W**, **fi**, **3.7.3**, and **1**. The score is arranged in a complex, multi-measure format with many ties and repeat signs.

18. H. O. L. S. (2014). The TM6SF2 gene and its role in the pathogenesis of type 2 diabetes mellitus. *Nat. Genet.* **46**, 345-351 (2014).
19. K. M. A. (2014). The TM6SF2 gene and its role in the pathogenesis of type 2 diabetes mellitus. *Nat. Genet.* **46**, 310-315 (2014).
20. B. D. (2014). FUN-LDA: a new method for identifying functional clusters in gene sets. *Nat. Genet.* **46**, 310-315 (2014).

... P.N., G.M.P., S.K., NHLBI TOPM ... W ... G ...

Additional information

Supplementary Information ...

Ra' a Ma 'a ³⁵, Pa ' M A # ³¹, M -L M D a ⁸⁸, S a M Fa a ⁸⁷, S M Ga ⁶⁹,
Ha M ³³, D b a A M ⁸⁸, J ' M a ³⁴, Na M ³³, M ' M ' a ³⁴, R a L M ⁷¹,
S M a ³³, Sa f # M a g D ³³, J f C M a j ⁵⁵, G ' Na a ⁶⁵, Ra ' Na ³⁵,
S g D ' N a ⁸⁹, D b a N ³², Ka ' N ⁶⁶, T ' O ' C ³¹, H a O -Ba ⁹⁰, Ja Pa ⁹¹,
G g D Pa a ' a ³⁴, Ma g Da Pa ⁵⁴, Af ' Pa a ³¹, Sa a P ⁴⁹, J a Ma P a a ⁶⁷,
Ma P ³⁹, U P ^{70,32}, Pa ' a P ⁴⁶, La P ' ' ³⁰, Sa P ' ' ³², T ' P ' ³¹, W # P ³⁵,
J ' a P B ⁴², M P ' B g D a ⁴², M ' a P ⁶⁵, D ' P ⁸⁷, B P a ³²,
Pa ' aj Qa ba ³⁴, Da # Q ' a ⁵⁴, Z a ' Q ' ³⁰, N ' a Ra fa ⁴², La a Ra ffi # ⁶⁶, D.C. Ra ⁶⁸,
La a Ra -T ⁹², Aa Ra a ⁵⁵, S a R # ⁵⁴, R b R # ⁸¹, E ' ab R g Da ⁴⁹,
A R ' ^{70,32}, K R ' ³², Da R # ⁶³, Ca ' a R ⁵⁷, I g D R ' ³⁵, Pa a R ⁴²,
Sa a R ⁹³, Ka R a ³¹, P a a Sa a a ⁵⁴, S ab a Sa ' ³¹, S Sa b g D ³⁵,
K ' Sa # ⁵⁶, V'ja Sa a a