

Supplementary Information

Common variants associated with plasma triglycerides and risk for coronary artery disease

Ron Do¹⁻⁴; Cristen J. Willer⁵⁻⁸; Ellen M. Schmidt⁶; Sebanti Sengupta⁸; Chi Gao^{1,2,4}; Gina M. Peloso^{2,4,9}; Stefan Gustafsson^{10,11}; Stavroula Kanoni¹²; Andrea Ganna^{10,11,13}; Jin Chen⁸; Martin L. Buchkovich¹⁴; Samia Mora^{15,16}; Jacques S. Beckmann^{17,18}; Jennifer L. Bragg-Gresham⁸; Hsing-Yi Chang¹⁹; Ayşe Demirkhan²⁰; Heleen M. Den Hertog²¹; Louise A. Donnelly²²; Georg B. Ehret^{23,24}; Tõnu Esko^{4,25,26}; Mary F. Feitosa²⁷; Teresa Ferreira²⁸; Krista Fischer²⁵; Pierre Fontanillas⁴; Ross M. Fraser²⁹; Daniel F. Freitag³⁰; Deepa Gurdasani^{12,30}; Kauko Heikkilä³¹; Elina Hyppönen³²; Aaron Isaacs^{20,33}; Anne U. Jackson⁸; Åsa Johansson^{34,35}; Toby Johnson^{36,37}; Marika Kaakinen^{38,39}; Johannes Kettunen^{40,41}; Marcus E. Kleber^{42,43}; Xiaohui Li⁴⁴; Jian'an Luan⁴⁵; Leo-Pekka Lytykäinen^{46,47}; Patrik K.E. Magnusson¹³; Massimo Mangino⁴⁸; Evelin Mihailov^{25,26}; May E. Montasser⁴⁹; Martina Müller-Nurasyid⁵⁰⁻⁵²; Ilja M. Nolte⁵³; Jeffrey R. O'Connell⁴⁹; Cameron D. Palmer^{4,54,55}; Markus Perola^{25,40,41}; Ann-Kristin Petersen⁵⁰; Serena Sanna⁵⁶; Richa Saxena²; Susan K. Service⁵⁷; Sonia Shah⁵⁸; Dmitry Shungin⁵⁹⁻⁶¹; Carlo Sidore^{8,56,62}; Ci Song^{10,11,13}; Rona J. Strawbridge^{63,64}; Ida Surakka^{40,41}; Toshiko Tanaka⁶⁵; Tanya M. Teslovich⁸; Gudmar Thorleifsson⁶⁶; Evita G. Van den Herik²¹; Benjamin F. Voight^{67,68}; Kelly A. Volcik⁶⁹; Lindsay L. Waite⁷⁰; Andrew Wong⁷¹; Ying Wu¹⁴; Weihua Zhang^{72,73}; Devin Absher⁷⁰; Gershim Asiki⁷⁴; Inês Barroso^{12,75}; Latonya F. Been⁷⁶; Jennifer L. Bolton²⁹; Lori L. Bonnycastle⁷⁷; Paolo Brambilla⁷⁸; Mary S. Burnett⁷⁹; Giancarlo Cesana⁸⁰; Maria Dimitriou⁸¹; Alex S.F. Doney²²; Angela Döring^{82,83}; Paul Elliott^{39,72,84}; Stephen E. Epstein⁷⁹; Gudmundur Ingi Eyjolfsson⁸⁵; Bruna Gigante⁸⁶; Mark O. Goodarzi⁸⁷; Harald Grallert⁸⁸; Martha L. Gravito⁷⁶; Christopher J. Groves⁸⁹; Göran Hallmans⁹⁰; Anna-Liisa Hartikainen⁹¹; Caroline Hayward⁹²; Dena Hernandez⁹³; Andrew A. Hicks⁹⁴; Hilma Holm⁶⁶; Yi-Jen Hung⁹⁵; Thomas Illig^{88,96}; Michelle R. Jones⁸⁷; Pontiano Kaleebu⁷⁴; John J.P. Kastelein⁹⁷; Kay-Tee Khaw⁹⁸; Eric Kim⁴⁴; Norman Klopp^{88,96}; Pirjo Komulainen⁹⁹; Meena Kumari⁵⁸; Claudia Langenberg⁴⁵; Terho Lehtimäki^{46,47}; Shih-Yi Lin¹⁰⁰; Jaana Lindström¹⁰¹; Ruth J.F. Loos^{45,102-104}; François Mach²³; Wendy L McArdle¹⁰⁵; Christa Meisinger⁸²; Braxton D. Mitchell⁴⁹; Gabrielle Müller¹⁰⁶; Ramaiah Nagaraja¹⁰⁷; Narisu Narisu⁷⁷; Tuomo V.M. Nieminen¹⁰⁸⁻¹¹⁰; Rebecca N. Nsubuga⁷⁴; Isleifur Olafsson¹¹¹; Ken K. Ong^{45,71}; Aarno Palotie^{40,112,113}; Theodore Papamarkou^{12,30,114}; Cristina Pomilla^{12,30}; Anneli Pouta^{91,115}; Daniel J. Rader^{116,117}; Muredach P. Reilly^{116,117}; Paul M. Ridker^{15,16}; Fernando Rivadeneira^{118,119,120}; Igor Rudan²⁹; Aimo Ruokonen¹²¹; Nilesh Samani^{122,123}; Hubert Scharnagl¹²⁴; Janet Seeley^{74,125}; Kaisa Silander^{40,41}; Alena Stančáková¹²⁶; Kathleen Stirrups¹²; Amy J. Swift⁷⁷; Laurence Tiret¹²⁷; Andre G. Uitterlinden¹¹⁸⁻¹²⁰; L. Joost van Pelt^{128,129}; Sailaja Vedantam^{4,54,55}; Nicholas Wainwright^{12,30}; Cisca Wijmenga^{129,130}; Sarah H. Wild²⁹; Gonnieke Willemsen¹³¹; Tom Wilsgaard¹³²; James F. Wilson²⁹; Elizabeth H. Young^{12,30}; Jing Hua Zhao⁴⁵; Linda S. Adair¹³³; Dominique Arveiler¹³⁴; Themistocles L. Assimes¹³⁵; Stefania Bandinelli¹³⁶; Franklyn Bennett¹³⁷; Murielle Bochud¹³⁸; Bernhard O.

Boehm^{139,140}; Dorret I. Boomsma¹³¹; Ingrid B. Borecki²⁷; Stefan R. Bornstein¹⁴¹; Pascal Bovet^{138,142}; Michel Burnier¹⁴³; Harry Campbell²⁹; Aravinda Chakravarti²⁴; John C. Chambers^{72,73,144}; Yii-Der Ida Chen^{145,146}; Francis S. Collins⁷⁷; Richard S. Cooper¹⁴⁷; John Danesh³⁰; George Dedoussis⁸¹; Ulf de Faire⁸⁶; Alan B. Feranil¹⁴⁸; Jean Ferrières¹⁴⁹; Luigi Ferrucci⁶⁵; Nelson B. Freimer^{57,150}; Christian Gieger⁵⁰; Leif C. Groop^{151,152}; Vilmundur Gudnason¹⁵³; Ulf Gyllensten³⁴; Anders Hamsten^{63,64,154}; Tamara B. Harris¹⁵⁵; Aroon Hingorani⁵⁸; Joel N. Hirschhorn^{4,54,55}; Albert Hofman^{118,120}; G. Kees Hovingh⁹⁷; Chao Agnes Hsiung¹⁵⁶; Steve E. Humphries¹⁵⁷; Steven C. Hunt¹⁵⁸; Kristian Hveem¹⁵⁹; Carlos Iribarren¹⁶⁰; Marjo-Riitta Järvelin^{38,39,72,84,115,161}; Antti Jula¹⁶²; Mika Kähönen¹⁶³; Jaakko Kaprio^{31,40,164}; Antero Kesäniemi¹⁶⁵; Mika Kivimaki⁵⁸; Jaspal S. Kooner^{73,144,166}; Peter J. Koudstaal²¹; Ronald M. Krauss¹⁶⁷; Diana Kuh⁷¹; Johanna Kuusisto¹⁶⁸; Kirsten O. Kyvik^{169,170}; Markku Laakso¹⁶⁸; Timo A. Lakka^{99,171}; Lars Lind¹⁷²; Cecilia M. Lindgren²⁸; Nicholas G. Martin¹⁷³; Winfried März^{43,124,174}; Mark I. McCarthy^{28,89}; Colin A. McKenzie¹⁷⁵; Pierre Meneton¹⁷⁶; Andres Metspalu^{25,26}; Leena Moilanen¹⁷⁷; Andrew D. Morris²²; Patricia B. Munroe^{36,37}; Inger Njølstad¹³²; Nancy L. Pedersen¹³; Chris Power³²; Peter P. Pramstaller^{94,178,179}; Jackie F. Price²⁹; Bruce M. Psaty^{180,181}; Thomas Quertermous¹³⁵; Rainer Rauramaa^{99,182}; Danish Saleheen^{30,183,184}; Veikko Salomaa¹⁸⁵; Dharambir K. Sanghera⁷⁶; Jouko Saramies¹⁸⁶; Peter E.H. Schwarz^{141,187}; Wayne H-H Sheu¹⁸⁸; Alan R. Shuldiner^{49,189}; Agneta Siegbahn^{10,35,172}; Tim D. Spector⁴⁸; Kari Stefansson^{66,190}; David P. Strachan¹⁹¹; Bamidele O. Tayo¹⁴⁷; Elena Tremoli¹⁹²; Jaakko Tuomilehto^{101,193-195}; Matti Uusitupa^{196,197}; Cornelia M. van Duijn^{20,33}; Peter Vollenweider¹⁹⁸; Lars Wallentin^{35,172}; Nicholas J. Wareham⁴⁵; John B. Whitfield¹⁷³; Bruce H.R. Wolffenbuttel^{129,199}; David Altshuler²⁻⁴; Jose M. Ordovas²⁰⁰⁻²⁰²; Eric Boerwinkle⁶⁹; Colin N.A. Palmer²²; Unnur Thorsteinsdottir^{66,190}; Daniel I. Chasman^{15,16}; Jerome I. Rotter⁴⁴; Paul W. Franks^{59,61,203}; Samuli Ripatti^{12,40,41}; L. Adrienne Cupples^{9,204}; Manjinder S. Sandhu^{12,30}; Stephen S. Rich²⁰⁵; Michael Boehnke⁸; Panos Deloukas¹²; Karen L. Mohlke¹⁴; Erik Ingelsson^{10,11,28}; Goncalo R. Abecasis⁸; Mark J. Daly^{2,4,206*†}; Benjamin M. Neale^{2,4,206*†}; Sekar Kathiresan^{1-4*†}

* Denotes equal contribution

† Corresponding authors

Correspondence to:

Sekar Kathiresan, M.D.
skathiresan@partners.org

or

Benjamin M. Neale, Ph.D.
bneale@broadinstitute.org

or

Mark J. Daly, Ph.D.
mjdaly@atgu.mgh.harvard.edu

1. Cardiovascular Research Center, Massachusetts General Hospital, Boston, Massachusetts 02114, USA.
2. Center for Human Genetic Research, Massachusetts General Hospital, Boston, Massachusetts 02114, USA.
3. Department of Medicine, Harvard Medical School, Boston, Massachusetts 02115, USA.
4. Program in Medical and Population Genetics, Broad Institute, 7 Cambridge Center, Cambridge, MA 02142, USA.
5. Department of Internal Medicine, Division of Cardiovascular Medicine, University of Michigan, Ann Arbor, Michigan 48109, USA.
6. Department of Computational Medicine and Bioinformatics, University of Michigan, Ann Arbor, Michigan 48109, USA.
7. Department of Human Genetics, University of Michigan, Ann Arbor, Michigan 48109, USA.
8. Center for Statistical Genetics, Department of Biostatistics, University of Michigan, Ann Arbor, Michigan 48109, USA.
9. Department of Biostatistics, Boston University School of Public Health, Boston, Massachusetts 02118, USA.
10. Department of Medical Sciences, Molecular Epidemiology, Uppsala University, Uppsala, Sweden.
11. Science for Life Laboratory, Uppsala University, Uppsala, Sweden.
12. Wellcome Trust Sanger Institute, Wellcome Trust Genome Campus, CB10 1SA, Hinxton, United Kingdom.
13. Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden.
14. Department of Genetics, University of North Carolina, Chapel Hill, NC 27599 USA.
15. Division of Preventive Medicine, Brigham and Women's Hospital, 900 Commonwealth Ave., Boston MA 02215, USA.
16. Harvard Medical School, Boston MA 02115, USA.
17. Service of Medical Genetics, Lausanne University Hospital, Lausanne, Switzerland.
18. Department of Medical Genetics, University of Lausanne, Lausanne, Switzerland.
19. Division of Preventive Medicine and Health Services Research, Institute of Population Health Sciences, National Health Research Institutes, Zhunan, Taiwan.
20. Genetic Epidemiology Unit, Department of Epidemiology, Erasmus University Medical Center, Rotterdam, The Netherlands.
21. Department of Neurology, Erasmus Medical Center, Rotterdam, The Netherlands.
22. Medical Research Institute, University of Dundee, Ninewells Hospital and Medical School, Dundee, DD1 9SY, United Kingdom.
23. Cardiology, Department of Specialities of Medicine, Geneva University Hospital, Rue Gabrielle-Perret-Gentil 4, 1211 Geneva 14, Switzerland.
24. Center for Complex Disease Genomics, McKusick-Nathans Institute of Genetic Medicine, Johns Hopkins University School of Medicine, Baltimore, MD 21205, USA.
25. Estonian Genome Center of the University of Tartu, Tartu, Estonia.

26. Institute of Molecular and Cell Biology, University of Tartu, Tartu, Estonia.
27. Department of Genetics, Washington University School of Medicine, USA.
28. Wellcome Trust Centre for Human Genetics, University of Oxford, Oxford, OX3 7BN, United Kingdom.
29. Centre for Population Health Sciences, University of Edinburgh, Teviot Place, Edinburgh, EH8 9AG, Scotland, United Kingdom.
30. Department of Public Health and Primary Care, University of Cambridge, Cambridge, United Kingdom.
31. Hjelt Institute, Department of Public Health, University of Helsinki, Finland.
32. Centre For Paediatric Epidemiology and Biostatistics/MRC Centre of Epidemiology for Child Health, University College of London Institute of Child Health, London, United Kingdom.
33. Centre for Medical Systems Biology, Leiden, the Netherlands.
34. Department of Immunology, Genetics and Pathology, Uppsala University, Uppsala, Sweden.
35. Uppsala Clinical Research Center, Uppsala University, Uppsala, Sweden.
36. Genome Centre, Barts and The London School of Medicine and Dentistry, Queen Mary University of London, London, UK.
37. Clinical Pharmacology, NIHR Cardiovascular Biomedical Research Unit, William Harvey Research Institute, Barts and The London School of Medicine and Dentistry Queen Mary University of London, London, UK.
38. Biocenter Oulu, University of Oulu, Oulu, Finland.
39. Institute of Health Sciences, University of Oulu, Finland.
40. Institute for Molecular Medicine Finland FIMM, University of Helsinki, Finland.
41. Public Health Genomics Unit, National Institute for Health and Welfare, Helsinki, Finland.
42. Department of Internal Medicine II – Cardiology, University of Ulm Medical Centre, Ulm, Germany.
43. Mannheim Institute of Public Health, Social and Preventive Medicine, Medical Faculty of Mannheim, University of Heidelberg, Ludolf-Krehl-Strasse 7-11, 68167 Mannheim, Germany.
44. Medical Genetics Institute, Cedars-Sinai Medical Center, Los Angeles, CA 90048, USA.
45. MRC Epidemiology Unit, Institute of Metabolic Science, Box 285, Addenbrooke's Hospital, Hills Road, Cambridge, CB2 0QQ, United Kingdom.
46. Department of Clinical Chemistry, Fimlab Laboratories, Tampere 33520, Finland.
47. Department of Clinical Chemistry, University of Tampere School of Medicine, Tampere 33014, Finland.
48. Department of Twin Research and Genetic Epidemiology, King's College London, London, United Kingdom.
49. Division of Endocrinology, Diabetes, and Nutrition, Department of Medicine, University of Maryland, School of Medicine, Baltimore, Maryland.
50. Institute of Genetic Epidemiology, Helmholtz Zentrum München, Neuherberg 85764, Germany.
51. Department of Medicine I, University Hospital Grosshadern, Ludwig-Maximilians University, Munich, Germany.

52. Institute of Medical Informatics, Biometry and Epidemiology, Ludwig-Maximilians-University of Munich, Munich, Germany.
53. Department of Epidemiology, University of Groningen, University Medical Center Groningen, The Netherlands.
54. Division of Endocrinology, Children's Hospital Boston, Boston, Massachusetts 02115, USA.
55. Division of Genetics, Program in Genomics, Children's Hospital Boston, Boston, Massachusetts 02115, USA.
56. Istituto di Ricerca Genetica e Biomedica, Consiglio Nazionale delle Ricerche, Monserrato, 09042, Italy.
57. Center for Neurobehavioral Genetics, The Semel Institute for Neuroscience and Human Behavior, University of California, Los Angeles, USA.
58. Genetic Epidemiology Group, Department of Epidemiology and Public Health, UCL, London WC1E 6BT, United Kingdom.
59. Department of Clinical Sciences, Genetic & Molecular Epidemiology Unit, Lund University Diabetes Center, Scania University Hospital, Malmö, Sweden.
60. Department of Odontology, Umeå University, Umeå, Sweden.
61. Department of Public Health and Primary Care, Unit of Medicine, Umeå University, Umeå, Sweden.
62. Dipartimento di Scienze Biomediche, Università di Sassari, 07100 SS, Italy.
63. Atherosclerosis Research Unit, Department of Medicine Solna, Karolinska University Hospital, Karolinska Institutet, Stockholm, Sweden.
64. Center for Molecular Medicine, Karolinska University Hospital, Stockholm, Sweden.
65. Clinical Research Branch, National Institute of Health, Baltimore, MD, USA.
66. deCODE Genetics/Amgen, 101 Reykjavik, Iceland.
67. Department of Genetics, University of Pennsylvania - School of Medicine, Philadelphia PA, 19104, USA.
68. Department of Systems Pharmacology and Translational Therapeutics, University of Pennsylvania - School of Medicine, Philadelphia PA, 19104, USA.
69. Human Genetics Center, University of Texas Health Science Center - School of Public Health, Houston, TX 77030, USA.
70. HudsonAlpha Institute for Biotechnology, Huntsville, AL, USA.
71. MRC Unit for Lifelong Health and Ageing, 33 Bedford Place, London, WC1B 5JU, United Kingdom.
72. Department of Epidemiology and Biostatistics, School of Public Health, Imperial College London, London, United Kingdom.
73. Ealing Hospital, Southall, Middlesex UB1 3HW, United Kingdom.
74. MRC/UVRI Uganda Research Unit on AIDS, Entebbe, Uganda.
75. University of Cambridge Metabolic Research Laboratories and NIHR Cambridge Biomedical Research Centre, Level 4, Institute of Metabolic Science Box 289 Addenbrooke's Hospital Cambridge CB2 OQQ, UK.
76. Department of Pediatrics, University of Oklahoma Health Sciences Center, Oklahoma City, OK, USA.
77. Genome Technology Branch, National Human Genome Research Institute, NIH, Bethesda, MD 20892, USA.

78. Department of Experimental Medicine, University of Milano Bicocca, Italy.
79. MedStar Health Research Institute, 6525 Belcrest Road, Suite 700, Hyattsville, MD 20782, USA.
80. Research Centre on Public Health, University of Milano Bicocca, Italy.
81. Department of Dietetics-Nutrition, Harokopio University, 70 El. Venizelou Str, Athens, Greece.
82. Institute of Epidemiology I, Helmholtz Zentrum München, Neuherberg 85764, Germany.
83. Institute of Epidemiology II, Helmholtz Zentrum München, Neuherberg 85764, Germany.
84. MRC Health Protection Agency (HPA) Centre for Environment and Health, School of Public Health, Imperial College London, UK.
85. The Laboratory in Mjodd, 108 Reykjavik, Iceland.
86. Division of Cardiovascular Epidemiology, Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden.
87. Division of Endocrinology, Diabetes and Metabolism, Department of Medicine, Cedars-Sinai Medical Center, Los Angeles, CA 90048, USA.
88. Research Unit of Molecular Epidemiology, Helmholtz Zentrum München, Neuherberg 85764, Germany.
89. Oxford Centre for Diabetes, Endocrinology and Metabolism, University of Oxford, OX3 7LJ, United Kingdom.
90. Department of Public Health and Clinical Medicine, Nutritional research, Umeå University, Umeå, Sweden.
91. Department of Clinical Sciences/Obstetrics and Gynecology, Oulu University Hospital, Oulu, Finland.
92. MRC Human Genetics Unit, Institute of Genetics and Molecular Medicine, Western General Hospital, Edinburgh, Scotland, United Kingdom.
93. Laboratory of Neurogenetics, National Institute on Aging, Bethesda, MD 20892, USA.
94. Center for Biomedicine, European Academy Bozen/Bolzano (EURAC), Bolzano, Italy - Affiliated Institute of the University of Lübeck, Lübeck, Germany.
95. Division of Endocrinology & Metabolism, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan.
96. Hannover Unified Biobank, Hannover Medical School, Hannover 30625, Germany.
97. Department of Vascular Medicine, Academic Medical Center, Amsterdam, The Netherlands.
98. Clinical Gerontology Unit, University of Cambridge, Cambridge, United Kingdom.
99. Kuopio Research Institute of Exercise Medicine, Kuopio, Finland.
100. Division of Endocrine and Metabolism, Department of Internal Medicine, Taichung Veterans General Hospital, School of Medicine, National Yang-Ming University, Taipei, Taiwan.
101. Diabetes Prevention Unit, National Institute for Health and Welfare, 00271 Helsinki, Finland.

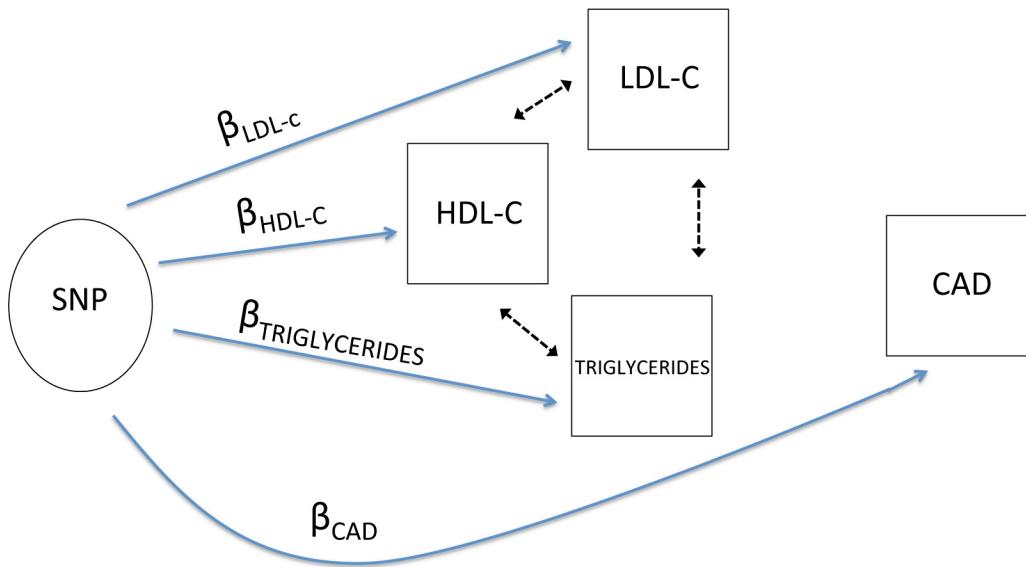
102. The Genetics of Obesity and Related Metabolic Traits Program, The Icahn School of Medicine at Mount Sinai, New York, USA.
103. The Charles Bronfman Institute for Personalized Medicine, The Icahn School of Medicine at Mount Sinai, New York, USA.
104. The Mindich Child Health and Development Institute, The Icahn School of Medicine at Mount Sinai, New York.
105. School of Social and Community Medicine, University of Bristol, Oakfield House, Oakfield Grove, Bristol BS8 2BN, United Kingdom.
106. Institute for Medical Informatics and Biometrics, University of Dresden, Medical Faculty Carl Gustav Carus, Fetscherstrasse 74, 01307 Dresden, Germany.
107. Laboratory of Genetics, National Institute on Aging, Baltimore, MD21224, USA.
108. Department of Clinical Pharmacology, University of Tampere School of Medicine, Tampere 33014, Finland.
109. Department of Internal Medicine, Päijät-Häme Central Hospital, Lahti, Finland.
110. Division of Cardiology, Helsinki University Central Hospital, Helsinki, Finland.
111. Department of Clinical Biochemistry, Landspítali University Hospital, 101 Reykjavík, Iceland.
112. Department of Medical Genetics, Haartman Institute, University of Helsinki and Helsinki University Central Hospital, Helsinki, Finland.
113. Genetic Epidemiology Group, Wellcome Trust Sanger Institute, Hinxton, Cambridge, United Kingdom.
114. Department of Statistical Sciences, University College of London, London, United Kingdom.
115. National Institute for Health and Welfare, Oulu, Finland.
116. Cardiovascular Institute, Perelman School of Medicine at the University of Pennsylvania, 3400 Civic Center Blvd, Building 421, Translational Research Center, Philadelphia, PA 19104-5158, USA.
117. Division of Translational Medicine and Human Genetics, Perelman School of Medicine at the University of Pennsylvania, 3400 Civic Center Blvd, Building 421, Translational Research Center, Philadelphia, PA 19104-5158, USA.
118. Department of Epidemiology, Erasmus University Medical Center, Rotterdam, the Netherlands.
119. Department of Internal Medicine, Erasmus University Medical Center, Rotterdam, the Netherlands.
120. Netherlands Genomics Initiative (NGI)-sponsored Netherlands Consortium for Healthy Aging (NCHA), Leiden, The Netherlands.
121. Department of Clinical Sciences/Clinical Chemistry, University of Oulu, Oulu, Finland.
122. National Institute for Health Research Leicester Cardiovascular Biomedical Research Unit, Glenfield Hospital, Leicester LE3 9QP, UK.
123. Department of Cardiovascular Sciences, University of Leicester, Glenfield Hospital, Leicester, LE3 9QP, UK
124. Clinical Institute of Medical and Chemical Laboratory Diagnostics, Medical University of Graz, Austria.
125. School of International Development, University of East Anglia, Norwich NR4 7TJ, United Kingdom.

126. University of Eastern Finland and Kuopio University Hospital, 70210 Kuopio, Finland.
127. INSERM UMRS 937, Pierre and Marie Curie University, Paris, France.
128. Department of Laboratory Medicine, University of Groningen, University Medical Center Groningen, The Netherlands.
129. LifeLines Cohort Study, University of Groningen, University Medical Center Groningen, The Netherlands.
130. Department of Genetics, University of Groningen, University Medical Center Groningen, The Netherlands.
131. Department of Biological Psychology, VU Univ, Amsterdam, The Netherlands.
132. Department of Community Medicine, Faculty of Health Sciences, University of Tromsø, Tromsø, Norway.
133. Department of Nutrition, University of North Carolina, Chapel Hill, NC, USA.
134. Department of Epidemiology and Public Health, EA 3430, University of Strasbourg, Faculty of Medicine, Strasbourg, France.
135. Department of Medicine, Stanford University School of Medicine, Stanford, CA, USA.
136. Geriatric Unit, Azienda Sanitaria Firenze (ASF), Florence, Italy.
137. Chemical Pathology, Department of Pathology, University of the West Indies, Mona, Kingston 7, Jamaica.
138. Institute of Social and Preventive Medicine (IUMSP), Lausanne University Hospital, Route de la Corniche 10, 1010 Lausanne, Switzerland.
139. Division of Endocrinology and Diabetes, Department of Internal Medicine, Ulm University Medical Centre, Ulm, Germany.
140. Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore.
141. Department of Medicine III, University of Dresden, Medical Faculty Carl Gustav Carus, Fetscherstrasse 74, 01307 Dresden, Germany.
142. Ministry of Health, Victoria, Republic of Seychelles.
143. Service of Nephrology, Lausanne University Hospital, Lausanne, Switzerland.
144. Imperial College Healthcare NHS Trust, London, United Kingdom.
145. Division of Reproductive Endocrinology, Department of Obstetrics and Gynecology, Cedars-Sinai Medical Center, Los Angeles, California, USA.
146. Department of Medicine, University of California Los Angeles, Los Angeles, California, USA.
147. Department of Preventive Medicine and Epidemiology, Loyola University Medical School, Maywood, Illinois 60153, USA.
148. Office of Population Studies Foundation, University of San Carlos, Talamban, Cebu City, Philippines.
149. Department of Cardiology, Toulouse University School of Medicine, Rangueil Hospital, Toulouse, France.
150. Department of Psychiatry, University of California, Los Angeles, USA.
151. Department of Clinical Sciences, Lund University, SE-20502, Malmö, Sweden
- .
152. Department of Medicine, Helsinki University Hospital, FI-00029 Helsinki, Finland.

153. Icelandic Heart Association, Kopavogur, Iceland.
154. Department of Cardiology, Karolinska University Hospital, Stockholm, Sweden.
155. Laboratory of Epidemiology, Demography, and Biometry, National Institute on Ageing, Bethesda, MD, USA.
156. Institute of Population Health Sciences, National Health Research Institutes, Zhunan, Taiwan.
157. Cardiovascular Genetics, BHF Laboratories, Institute Cardiovascular Science, University College London, London, United Kingdom.
158. Cardiovascular Genetics, University of Utah School of Medicine, Salt Lake City, UT, USA.
159. HUNT Research Centre, Department of Public Health and General Practice, Norwegian University of Science and Technology, Levanger, Norway.
160. Kaiser Permanente, Division of Research, Oakland, CA, USA.
161. Unit of Primary Care, Oulu University Hospital, Oulu, Finland
162. Department of Chronic Disease Prevention, National Institute for Health and Welfare, Turku, Finland.
163. Department of Clinical Physiology, University of Tampere School of Medicine, Tampere 33014, Finland.
164. Department of Mental Health and Substance Abuse Services, National Institute for Health and Welfare, Helsinki, Finland.
165. Institute of Clinical Medicine, Department of Medicine, University of Oulu and Clinical Research Center, Oulu University Hospital, Oulu, Finland.
166. National Heart & Lung Institute, Imperial College London, Hammersmith Hospital, London, United Kingdom.
167. Children's Hospital Oakland Research Institute, 5700 Martin Luther King Junior Way, Oakland, CA 94609, USA.
168. Department of Medicine, University of Eastern Finland and Kuopio University Hospital, 70210 Kuopio, Finland.
169. Institute of Regional Health Services Research, University of Southern Denmark, Odense, Denmark.
170. Odense Patient data Explorative Network (OPEN), Odense University Hospital, Odense, Denmark.
171. Institute of Biomedicine/Physiology, University of Eastern Finland, Kuopio Campus, Finland.
172. Department of Medical Sciences, Uppsala University, Uppsala, Sweden.
173. Queensland Institute of Medical Research, Locked Bag 2000, Royal Brisbane Hospital, Queensland 4029, Australia.
174. Synlab Academy, Synlab Services GmbH, Gottlieb-Daimler-Straße 25, 68165 Mannheim, Germany.
175. Tropical Metabolism Research Unit, Tropical Medicine Research Institute, University of the West Indies, Mona, Kingston 7, Jamaica.
176. U872 Institut National de la Santé et de la Recherche Médicale, Centre de Recherche des Cordeliers, 75006 Paris, France.
177. Department of Medicine, Kuopio University Hospital, Kuopio, Finland.
178. Department of Neurology, General Central Hospital, Bolzano, Italy.
179. Department of Neurology, University of Lübeck, Lübeck, Germany.

180. Cardiovascular Health Research Unit, Departments of Medicine, Epidemiology, and Health Services, University of Washington, Seattle, WA, USA.
181. Group Health Research Institute, Group Health Cooperative, Seattle, WA, USA.
182. Department of Clinical Physiology and Nuclear Medicine, Kuopio University Hospital, Kuopio, Finland.
183. Center for Non-Communicable Diseases, Karachi, Pakistan.
184. Department of Medicine, University of Pennsylvania, USA.
185. Unit of Chronic Disease Epidemiology and Prevention, National Institute for Health and Welfare, Helsinki, Finland.
186. South Karelia Central Hospital, Lappeenranta, Finland.
187. Paul Langerhans Institute Dresden, German Center for Diabetes Research (DZD), Dresden, Germany.
188. Division of Endocrine and Metabolism, Department of Internal Medicine, Taichung Veterans General Hospital, Taichung, Taiwan.
189. Geriatric Research and Education Clinical Center, Veterans Administration Medical Center, Baltimore, Maryland.
190. Faculty of Medicine, University of Iceland, 101 Reykjavík, Iceland.
191. Division of Population Health Sciences and Education, St George's, University of London, Cranmer Terrace, London SW17 0RE, United Kingdom.
192. Department of Pharmacological Sciences, University of Milan, Monzino Cardiology Center, IRCCS, Milan, Italy.
193. Centre for Vascular Prevention, Danube-University Krems, 3500 Krems, Austria.
194. King Abdulaziz University, Faculty of Medicine, Jeddah 21589, Saudi Arabia.
195. Red RECAVA Grupo RD06/0014/0015, Hospital Universitario La Paz, 28046.
196. Institute of Public Health and Clinical Nutrition, University of Eastern Finland, Finland.
197. Research Unit, Kuopio University Hospital, Kuopio, Finland.
198. Department of Medicine, Lausanne University Hospital, Switzerland.
199. Department of Endocrinology, University of Groningen, University Medical Center Groningen, The Netherlands.
200. Department of Cardiovascular Epidemiology and Population Genetics, National Center for Cardiovascular Investigation, Madrid, Spain.
201. IMDEA-Alimentacion, Madrid, Spain.
202. Nutrition and Genomics Laboratory, Jean Mayer-USDA Human Nutrition Research Center on Aging at Tufts University, Boston, MA, USA.
203. Department of Nutrition, Harvard School of Public Health, Boston, MA, USA.
204. Framingham Heart Study, Framingham, MA, USA.
205. Center for Public Health Genomics, University of Virginia, Charlottesville, VA 22908, USA.
206. Analytic and Translational Genetics Unit, Massachusetts General Hospital, Boston, MA 02138, USA.

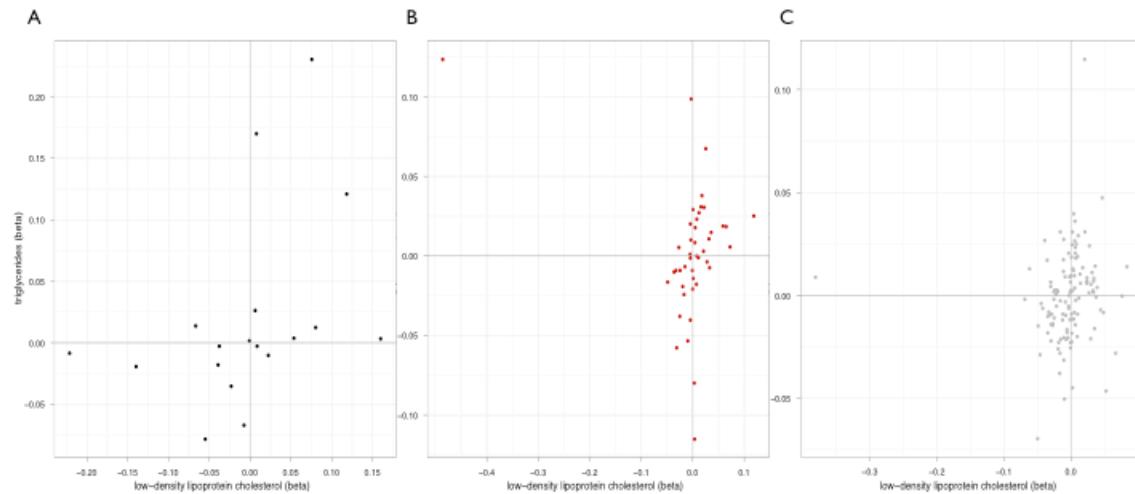
Supplementary Figure 1. Schematic to evaluate the effect of a SNP on three lipid fractions and coronary artery disease.



Dotted arrows indicate phenotypic correlations among plasma LDL-C, HDL-C and triglycerides. Blue arrows indicate the regression model performed between the independent variable (SNPs) and outcome variable (lipid trait or CAD). Betas (β) are the observed effect size of the independent variable in the association model. In total, 12 regression models were tested for association of the strength of effect of a SNP on plasma lipids (predictor variable) with its strength of effect on CAD (outcome variable), after accounting for a SNP's potential effects on other lipid traits (covariate) (Table 3).

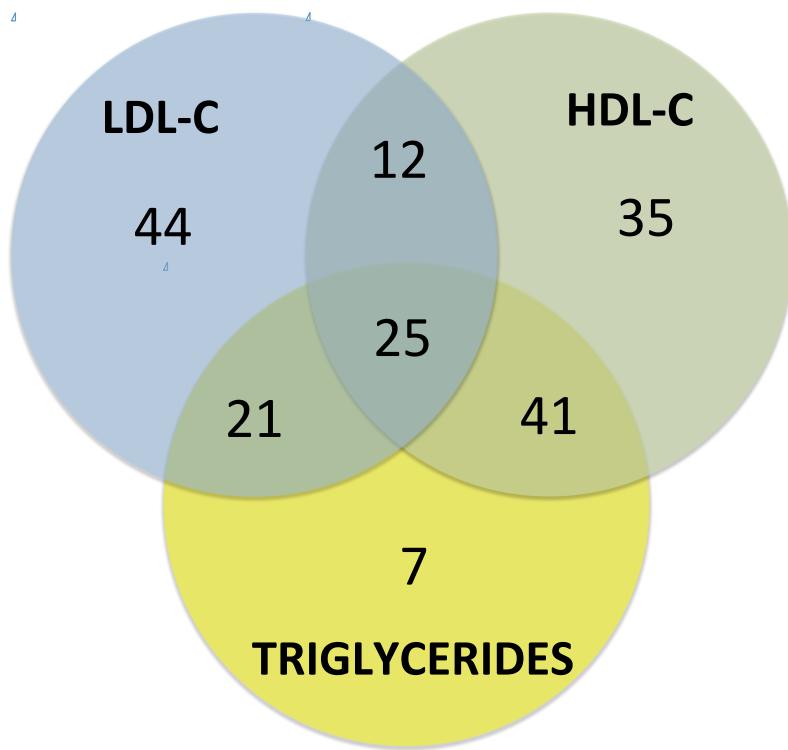
SNP: Single nucleotide polymorphism; LDL-C: Low-density lipoprotein cholesterol; HDL-C: High-density lipoprotein cholesterol; CAD: Coronary artery disease.

Supplementary Figure 2. Effect of a SNP on triglycerides, LDL-C, and risk for coronary artery disease.



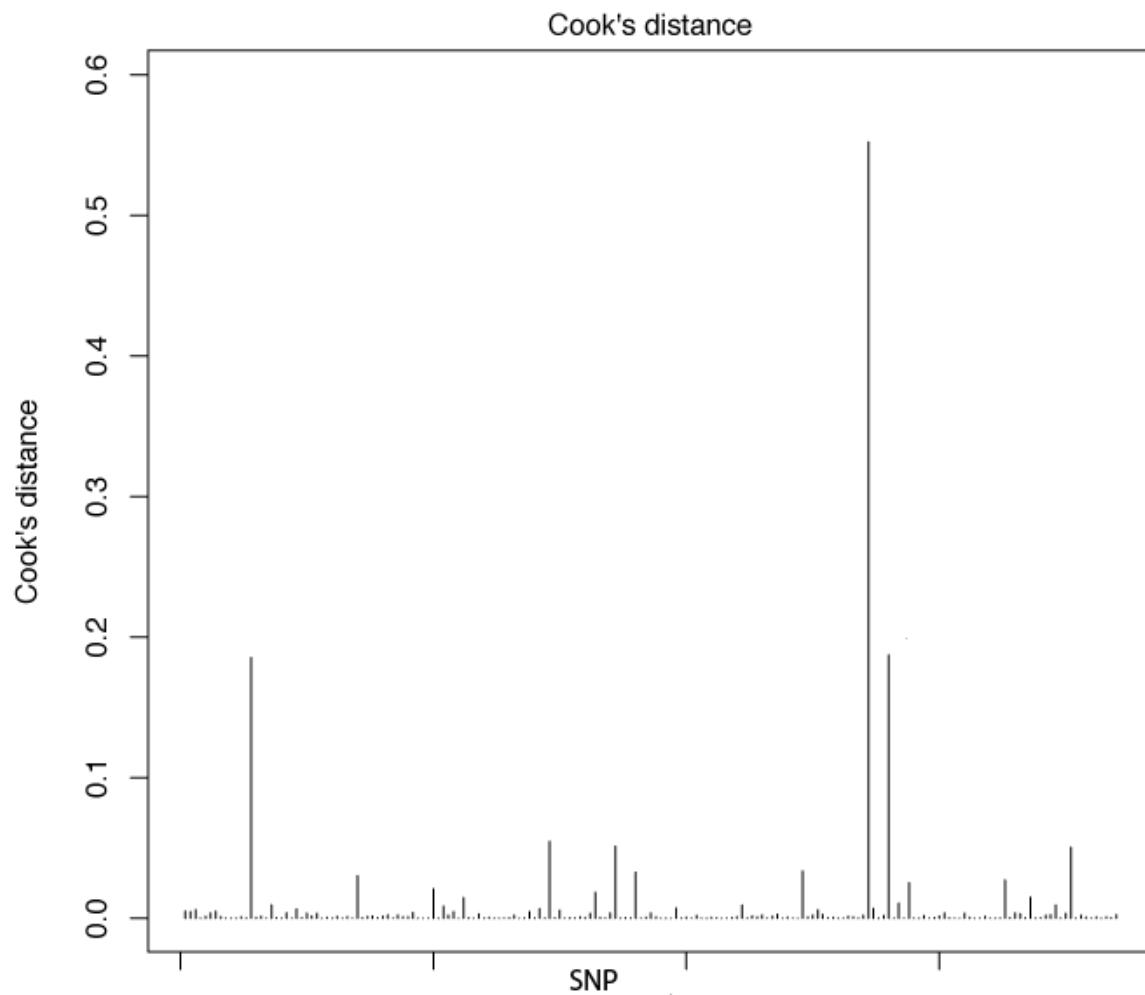
A. Black dots represent SNPs with CAD $P < 0.001$; B. Red dots represent SNPs with $0.01 < CAD \text{ } P < 0.001$; C. Grey dots represent CAD $P > 0.10$). Loci strongly associated with CAD tend to have consistent directions for both triglycerides and LDL-C (bottom left and top right quadrants). In contrast to the grey points, the black and red points are concentrated in the bottom left and top right quadrants. Betas are in standard deviation units. All SNPs are shown.

Supplementary Figure 3. Overlap between SNPs associated with triglycerides, LDL-C and HDL-C.



Number of SNPs associated with triglycerides, low-density lipoprotein cholesterol (LDL-C) and/or high-density lipoprotein cholesterol (HDL-C) ($P < 0.001$) are shown. The results show that many SNPs have associations with more than one lipid trait.

Supplementary Figure 4. Distribution of Cook's D statistic for 185 SNPs.



The distribution of influential observations using Cook's D statistic¹ for the association of the magnitude of a SNP's effect on a lipid fraction with its magnitude of effect on CAD risk when jointly considered in a multiple linear regression model are shown (**Supplementary Table 5**). The results show that there are only a few extreme outliers.

Supplementary Table 1. Effect sizes and P-values for LDL-C, HDL-C, triglycerides and CAD for all 185 lipid SNPs.

rs ID	chr	pos	a1	a2	LDL-C		HDL-C		Triglycerides		CAD	
					beta	P-value	beta	P-value	beta	P-value	beta	P-value
rs10903129	1	25641524	A	G	-0.033	4x10 ⁻¹⁹	-0.0009	0.79	-0.008	0.017	-0.012	0.38
rs4660293	1	39800767	A	G	-0.011	0.014	0.035	7x10 ⁻¹⁹	-0.02	1x10 ⁻⁷	-0.011	0.48
rs1998013	1	55730618	T	C	-0.38	4x10 ⁻⁶⁷	0.035	0.077	0.0089	0.66	-0.15	0.12
rs10493326	1	62725961	A	G	0.021	6x10 ⁻⁷	-0.0013	0.74	0.031	1x10 ⁻¹⁵	-0.0087	0.65
rs4587594	1	62906518	A	G	-0.049	3x10 ⁻³⁷	-0.015	5x10 ⁻⁵	-0.069	3x10 ⁻⁸⁷	0.017	0.26
rs6603981	1	92766395	T	C	0.034	2x10 ⁻¹⁴	0.0039	0.35	0.0072	0.076	0.012	0.48
rs12133576	1	93588988	A	G	0.01	0.006	0.024	6x10 ⁻¹²	-0.009	0.0088	0.0058	0.69
rs646776	1	109620053	T	C	0.16	1x10 ⁻²⁹²	-0.034	9x10 ⁻¹⁷	0.0034	0.39	0.094	5x10 ⁻⁸
rs1010167	1	110000250	C	G	-0.025	3x10 ⁻¹⁰	0.0044	0.23	-0.0016	0.66	-0.028	0.14
rs267733	1	149225460	A	G	0.033	5x10 ⁻¹⁰	-0.016	0.0012	0.0025	0.61	0.0027	0.9
rs12145743	1	154967275	T	G	0.0042	0.29	-0.02	2x10 ⁻⁸	0.012	6x10 ⁻⁴	-0.0092	0.55
rs4650994	1	176781935	A	G	0.0027	0.45	-0.021	6x10 ⁻¹⁰	0.0024	0.47	0.0082	0.55
rs1689797	1	180417601	A	C	0.014	0.00022	-0.036	2x10 ⁻²³	0.011	0.0025	0.0098	0.51
rs2642438	1	219036651	A	G	-0.035	4x10 ⁻¹⁷	-0.03	5x10 ⁻¹⁵	0.017	5x10 ⁻⁶	-0.02	0.22
rs903319	1	219052434	T	C	-0.027	8x10 ⁻¹¹	-0.01	0.0067	0.0054	0.15	0.031	0.047
rs4846914	1	228362314	A	G	-0.0043	0.25	0.048	6x10 ⁻⁴⁴	-0.04	7x10 ⁻³³	-0.029	0.041
rs6680658	1	228485967	A	G	-0.0055	0.22	0.023	2x10 ⁻⁸	-0.017	4x10 ⁻⁵	-0.0096	0.58
rs2587534	1	232915962	A	G	0.039	3x10 ⁻²⁶	0.0093	0.0065	0.0041	0.22	-0.00064	0.96
rs1367117	2	21117405	A	G	0.12	2x10 ⁻¹⁹⁶	-0.022	2x10 ⁻⁹	0.025	3x10 ⁻¹²	0.035	0.023
rs515135	2	21139562	T	C	-0.14	1x10 ⁻¹⁸⁸	0.011	0.014	-0.019	1x10 ⁻⁵	-0.064	9x10 ⁻⁴
rs1260326	2	27584444	T	C	0.021	3x10 ⁻⁸	-0.011	0.001	0.11	2x10 ⁻²⁵⁴	0.024	0.1
rs3817588	2	27584716	T	C	0.026	3x10 ⁻⁸	-0.0049	0.26	0.067	7x10 ⁻⁵⁸	0.034	0.077
rs6544713	2	43927385	T	C	0.081	6x10 ⁻⁸⁵	-0.003	0.43	0.013	7x10 ⁻⁴	0.061	2x10 ⁻⁴
rs4148218	2	43953086	A	G	-0.044	3x10 ⁻²¹	0.0029	0.51	-0.0037	0.38	-0.026	0.23

rs2710642	2	63003061	A	G	0.024	3×10^{-10}	-0.0096	0.0068	0.0065	0.06	0.017	0.26
rs17508045	2	118293189	T	C	0.049	9×10^{-14}	-0.0085	0.16	-0.0083	0.16	0.032	0.21
rs2030746	2	121025958	T	C	0.021	2×10^{-8}	-0.0025	0.49	0.0031	0.38	0.028	0.087
rs16831243	2	135478814	T	C	0.038	8×10^{-12}	0.011	0.027	-0.0006	0.91	-0.012	0.58
rs7607980	2	165259447	T	C	0.0065	0.24	-0.045	1×10^{-17}	0.036	7×10^{-13}	0.012	0.57
rs355838	2	165327409	T	G	0.018	2×10^{-6}	-0.019	4×10^{-8}	0.014	8×10^{-5}	0.019	0.20
rs2287623	2	169538401	A	G	-0.022	7×10^{-9}	-0.011	0.0012	0.0006	0.87	0.0073	0.60
rs7422339	2	211248752	A	C	0.0079	0.06	-0.027	5×10^{-12}	0	1	-0.047	0.013
rs1250229	2	216012629	T	C	-0.024	8×10^{-9}	0.0034	0.39	-0.0089	0.019	0.034	0.067
rs1515110	2	226830460	T	G	0.0063	0.089	-0.032	2×10^{-20}	0.027	5×10^{-15}	0.048	8×10^{-4}
rs11563251	2	234344123	T	C	0.035	2×10^{-8}	0.0058	0.31	0.0083	0.14	0.0016	0.95
rs9875338	3	12271469	A	G	-0.027	3×10^{-13}	-0.0073	0.034	-0.014	2×10^{-5}	-0.018	0.21
rs7640978	3	32508014	T	C	-0.039	1×10^{-8}	0.0003	0.96	-0.018	0.0044	-0.093	4×10^{-4}
rs2290547	3	47036187	A	G	0.0006	0.90	-0.03	8×10^{-11}	0.0096	0.03	-0.039	0.15
rs2240327	3	50088038	A	G	-0.0005	0.88	-0.024	9×10^{-13}	0.0017	0.61	0.055	7×10^{-5}
rs13326165	3	52507158	A	G	-0.0042	0.36	0.029	2×10^{-11}	-0.021	9×10^{-7}	-0.021	0.24
rs6805251	3	121043296	T	C	0.012	0.0013	0.02	8×10^{-9}	-0.0011	0.75	0.0069	0.62
rs17345563	3	133691893	A	G	0.036	3×10^{-10}	-0.014	0.007	0.015	0.0038	0.066	0.0026
rs687339	3	137415049	T	C	0.011	0.014	-0.032	3×10^{-14}	0.029	6×10^{-13}	0.024	0.16
rs1482852	3	158280988	A	G	0.0029	0.45	-0.021	3×10^{-9}	0.013	2×10^{-4}	0.027	0.11
rs10513688	3	172209912	A	G	0.022	3×10^{-4}	-0.0049	0.38	0.031	4×10^{-8}	0.048	0.046
rs6831256	4	3442937	A	G	-0.019	1×10^{-6}	0.013	3×10^{-4}	-0.026	9×10^{-14}	-0.026	0.2
rs10019888	4	25672088	A	G	-0.018	3×10^{-4}	0.027	6×10^{-9}	-0.023	5×10^{-7}	-0.0097	0.61
rs442177	4	88249285	T	G	0.016	2×10^{-5}	-0.022	3×10^{-10}	0.031	3×10^{-20}	0.028	0.046
rs10029254	4	88379164	T	C	0.0058	0.18	-0.0085	0.037	0.027	1×10^{-11}	-0.0082	0.63
rs3822072	4	89960292	A	G	0.0074	0.046	-0.025	3×10^{-13}	0.018	6×10^{-8}	0.015	0.3
rs2602836	4	100233828	A	G	-0.0007	0.84	0.019	2×10^{-8}	-0.009	0.007	0.028	0.049
rs13107325	4	103407732	T	C	-0.016	0.061	-0.071	8×10^{-20}	0.031	6×10^{-5}	0.0049	0.91

rs6450176	5	53333782	A	G	0.01	0.013	-0.025	1×10^{-10}	0.019	6×10^{-7}	0.024	0.14	
rs9686661	5	55897543	T	C	0.018	2×10^{-4}	-0.028	2×10^{-10}	0.038	3×10^{-18}	0.054	0.0032	
rs4976033	5	67750002	A	G	0.001	0.79	0.022	9×10^{-9}	-0.014	1×10^{-4}	-0.067	0.0055	
rs7703051	5	74661243	A	C	0.073	5×10^{-85}	0.002	0.56	0.0057	0.093	0.033	0.02	
rs4530754	5	122883315	A	G	0.028	4×10^{-14}	0.0008	0.81	0.0015	0.64	-0.0075	0.59	
rs6882076	5	156322875	T	C	-0.046	5×10^{-33}	-0.0015	0.67	-0.029	1×10^{-16}	-0.021	0.15	
rs2294261	6	16217142	A	C	0.033	5×10^{-19}	-0.0085	0.015	0.0021	0.54	-0.0038	0.81	
rs1800562	6	26201120	A	G	-0.062	2×10^{-14}	-0.0074	0.32	0.013	0.072	-0.026	0.38	
rs2247056	6	31373469	T	C	-0.025	6×10^{-9}	-0.012	0.0023	-0.038	2×10^{-22}	-0.03	0.058	
rs205262	6	34671142	A	G	0.0088	0.034	0.028	2×10^{-13}	-0.0028	0.45	-0.061	1×10^{-4}	
rs998584	6	43865874	A	C	0.0005	0.9	-0.026	4×10^{-12}	0.029	2×10^{-15}	0.048	0.009	
rs17789218	6	100706818	T	C	0.024	3×10^{-8}	-0.0041	0.31	0.0061	0.12	-0.01	0.54	
rs868943	6	116444196	A	G	-0.026	1×10^{-12}	-0.0075	0.029	-0.014	5×10^{-5}	-0.019	0.17	
rs9491696	6	127494332	C	G	-0.0057	0.12	0.02	3×10^{-9}	-0.018	9×10^{-8}	-0.0098	0.48	
rs634869	6	139873450	T	C	0.013	6×10^{-4}	-0.023	8×10^{-12}	0.027	4×10^{-16}	0.038	0.0072	
rs12525163	6	152081984	T	C	0.0043	0.29	-0.022	9×10^{-9}	0.0086	0.018	-0.043	0.0054	
rs2297374	6	160495975	T	C	-0.033	6×10^{-18}	0.0056	0.11	-0.0091	0.0077	-0.029	0.058	
rs1564348	6	160498850	T	C	-0.048	3×10^{-22}	0.0077	0.098	-0.016	3×10^{-4}	-0.061	0.0013	
rs702485	7	6415797	A	G	-0.001	0.79	-0.024	1×10^{-12}	0.0016	0.64	0.0063	0.66	
rs17286602	7	16118699	A	T	-0.0032	0.38	0.021	8×10^{-10}	-0.006	0.07	-0.007	0.62	
rs10282707	7	17877563	T	C	-0.0084	0.025	-0.025	8×10^{-13}	0.0092	0.0072	-0.0016	0.91	
rs12670798	7	21573877	T	C	-0.034	7×10^{-16}	0.0014	0.73	-0.01	0.0089	0.0074	0.66	
rs4722551	7	25958351	T	C	-0.039	7×10^{-16}	-0.01	0.027	0.027	2×10^{-9}	-0.033	0.23	
rs2073547	7	44548856	A	G	-0.049	5×10^{-23}	0.0049	0.28	-0.015	9×10^{-4}	-0.021	0.43	
rs217386	7	44567220	A	G	-0.036	8×10^{-22}	0.0013	0.71	-0.01	0.0031	-0.025	0.087	
rs4917014	7	50276409	T	G	-0.0047	0.23	-0.022	8×10^{-10}	0.0012	0.74	0.026	0.078	
rs17145738	7	72620810	T	C	0.0039	0.50	0.041	1×10^{-14}	-0.11	2×10^{-103}	0.042	0.057	
rs799160	7	72697942	T	C	0.0045	0.25	-0.013	0.0004	0.04	7×10^{-29}	-0.011	0.61	

rs38855	7	116145280	A	G	0.001	0.78	-0.015	2x10 ⁻⁵	0.019	2x10 ⁻⁸	0.02	0.15
rs3996352	7	130095474	A	G	0.0053	0.14	-0.03	4x10 ⁻¹⁸	0.018	7x10 ⁻⁸	0.04	0.0039
rs17173637	7	150160382	T	C	-0.0069	0.26	0.036	2x10 ⁻¹⁰	-0.021	2x10 ⁻⁴	-0.0076	0.77
rs4240624	8	9221641	A	G	0.067	7x10 ⁻²⁷	0.082	3x10 ⁻⁴⁵	-0.028	1x10 ⁻⁶	0.021	0.4
rs9693857	8	9304527	T	C	-0.0046	0.21	-0.0037	0.28	0.02	3x10 ⁻⁹	-0.026	0.072
rs4332136	8	15844224	C	G	-0.043	0.66	0.48	1x10 ⁻¹³	0.024	0.65	0.0032	0.97
rs4921914	8	18316718	T	C	-0.023	2x10 ⁻⁷	-0.0019	0.65	-0.035	8x10 ⁻¹⁹	-0.075	9x10 ⁻⁶
rs12678919	8	19888502	A	G	0.008	0.19	-0.16	5x10 ⁻¹⁶⁵	0.17	2x10 ⁻²⁰⁶	0.087	3x10 ⁻⁴
rs894210	8	19910123	A	G	-0.0071	0.054	0.069	1x10 ⁻⁹⁰	-0.067	5x10 ⁻⁹⁰	-0.06	7x10 ⁻⁵
rs10102164	8	55584167	A	G	0.032	3x10 ⁻¹²	-0.0005	0.9	0.011	0.0054	0.012	0.47
rs2326077	8	59548473	T	C	-0.034	2x10 ⁻¹⁹	-0.0043	0.22	-0.018	2x10 ⁻⁷	0.0055	0.71
rs2293889	8	116668374	T	G	0.015	0.00011	-0.031	1x10 ⁻¹⁸	0.0062	0.071	-0.012	0.4
rs2737252	8	116733072	A	G	-0.031	1x10 ⁻¹⁴	-0.013	9x10 ⁻⁴	-0.0092	0.013	0.0079	0.61
rs4871137	8	121937732	T	G	-0.0043	0.28	-0.021	1x10 ⁻⁸	-0.0013	0.72	-0.026	0.083
rs2980885	8	126543488	A	G	-0.031	4x10 ⁻¹²	0.035	4x10 ⁻¹⁷	-0.058	5x10 ⁻⁴⁵	-0.041	0.016
rs2954022	8	126551803	A	C	-0.055	4x10 ⁻⁵¹	0.04	2x10 ⁻³²	-0.078	2x10 ⁻¹²⁴	-0.056	6x10 ⁻⁵
rs4075205	8	144356084	T	C	-0.012	0.0016	0.022	2x10 ⁻¹⁰	-0.009	0.0083	-0.00094	0.96
rs7832643	8	145094645	T	G	0.034	7x10 ⁻¹⁹	-0.001	0.77	0.0017	0.62	-0.011	0.44
rs3780181	9	2630759	A	G	0.045	1x10 ⁻⁹	0.0038	0.58	-0.0069	0.30	0.035	0.18
rs686030	9	15294782	A	C	0.0085	0.11	0.055	3x10 ⁻²⁹	0.025	2x10 ⁻⁷	0.027	0.19
rs7033354	9	16894846	T	C	-0.019	5x10 ⁻⁷	0.015	1x10 ⁻⁵	-0.019	3x10 ⁻⁸	-0.034	0.021
rs1883025	9	106704122	T	C	-0.03	1x10 ⁻¹¹	-0.07	6x10 ⁻⁶⁶	-0.022	3x10 ⁻⁸	-0.014	0.41
rs2472509	9	106724051	T	G	-0.0004	0.91	-0.023	7x10 ⁻¹⁰	0.0024	0.51	0.025	0.25
rs8176720	9	135122694	T	C	0.033	6x10 ⁻¹⁸	0.0005	0.88	-0.0073	0.037	0.027	0.06
rs579459	9	135143989	T	C	-0.067	3x10 ⁻⁴⁹	-0.015	0.00052	0.014	9x10 ⁻⁴	-0.098	1x10 ⁻⁷
rs1781930	10	5186273	A	G	-0.01	0.035	-0.0018	0.69	-0.031	5x10 ⁻¹³	0.019	0.3
rs970548	10	45333283	A	C	-0.016	2x10 ⁻⁴	-0.026	2x10 ⁻¹¹	-0.0025	0.51	0.022	0.19
rs7897379	10	64971731	T	C	-0.01	5x10 ⁻³	-0.019	1x10 ⁻⁸	0.027	2x10 ⁻¹⁶	-0.016	0.26

rs2068888	10	94829632	A	G	-0.017	1×10^{-5}	0.019	5×10^{-8}	-0.024	2×10^{-12}	-0.033	0.099	
rs2255141	10	113923876	A	G	0.03	7×10^{-14}	0.034	1×10^{-19}	-0.021	1×10^{-8}	-0.0076	0.63	
rs2923084	11	10345358	A	G	-0.012	0.013	0.026	2×10^{-8}	-0.012	0.0071	0.01	0.58	
rs2303975	11	14233575	A	G	-0.0013	0.81	0.028	1×10^{-8}	-0.012	0.016	0.015	0.46	
rs10832962	11	18612847	T	C	0.032	2×10^{-15}	0.0043	0.25	0.011	0.0028	0.044	0.0049	
rs326214	11	47254936	A	G	0.0071	0.14	-0.061	3×10^{-42}	0.024	2×10^{-8}	0.0055	0.73	
rs17788930	11	47709351	A	G	0.0046	0.23	0.036	1×10^{-23}	-0.011	0.0013	-0.008	0.58	
rs11246602	11	51368666	T	C	-0.0019	0.73	-0.034	6×10^{-11}	0.0091	0.079	-0.0032	0.88	
rs12226802	11	55080884	A	G	-0.0002	0.97	-0.033	2×10^{-11}	0.0067	0.18	-0.013	0.51	
rs174532	11	61305450	A	G	0.035	5×10^{-17}	0.021	8×10^{-8}	-0.016	3×10^{-5}	0.0097	0.67	
rs1535	11	61354548	A	G	0.053	3×10^{-43}	0.039	5×10^{-28}	-0.046	1×10^{-40}	0.0019	0.9	
rs12801636	11	65147893	A	G	0.0078	0.079	0.024	2×10^{-8}	-0.018	1×10^{-5}	-0.038	0.038	
rs499974	11	75132669	A	C	0.0012	0.79	-0.026	2×10^{-9}	-0.009	0.034	-0.017	0.35	
rs10790162	11	116144314	A	G	0.076	3×10^{-26}	-0.095	3×10^{-46}	0.23	1×10^{-276}	0.13	2×10^{-6}	
rs603446	11	116159645	T	C	-0.0092	0.013	0.0018	0.60	-0.05	2×10^{-50}	-0.0089	0.52	
rs7117842	11	122039714	T	C	-0.019	3×10^{-7}	-0.027	6×10^{-15}	0.002	0.56	-0.017	0.24	
rs11220462	11	125749162	A	G	0.059	3×10^{-23}	-0.016	0.004	0.019	4×10^{-4}	0.053	0.015	
rs11045163	12	20354793	A	G	0.0055	0.14	-0.022	3×10^{-10}	0.0097	0.004	0.0056	0.7	
rs3741414	12	56130316	T	C	-0.016	3×10^{-4}	0.03	2×10^{-13}	-0.028	8×10^{-13}	-0.0019	0.92	
rs10861661	12	105698776	A	C	-0.0004	0.93	0.022	2×10^{-7}	-0.023	3×10^{-8}	0.0052	0.78	
rs2241210	12	108434527	A	G	-0.0078	0.035	-0.033	3×10^{-21}	-0.0029	0.38	0.0058	0.68	
rs653178	12	110492139	T	C	0.023	2×10^{-9}	0.026	1×10^{-13}	-0.0099	0.004	-0.077	2×10^{-6}	
rs6489818	12	110794963	A	G	0.028	6×10^{-9}	-0.0004	0.93	-0.0036	0.41	-0.055	0.0017	
rs1186380	12	119860799	T	C	-0.024	1×10^{-8}	-0.0002	0.96	0.0026	0.50	0.0035	0.84	
rs1169288	12	119901033	A	C	-0.038	9×10^{-21}	-0.0096	1×10^{-2}	-0.0025	0.49	-0.07	3×10^{-6}	
rs838876	12	123825841	A	G	-0.003	0.47	0.049	5×10^{-36}	-0.0052	0.16	0.0036	0.84	
rs10773105	12	123849719	T	C	0.0058	0.12	-0.036	1×10^{-25}	0.0037	0.28	-0.012	0.42	
rs4942486	13	31851388	T	C	0.024	3×10^{-11}	-0.014	6×10^{-5}	0.0071	0.031	0	1	

rs1341267	13	94082981	A	C	0.0016	0.67	0.0023	0.50	-0.018	4x10 ⁻⁸	-0.02	0.15
rs8017377	14	23953727	A	G	0.03	3x10 ⁻¹⁵	-0.0037	0.30	0.0056	0.11	-0.018	0.36
rs4983559	14	104348254	A	G	-0.0026	0.5	-0.02	4x10 ⁻⁸	0.0001	0.98	-0.023	0.24
rs2412710	15	40471079	A	G	-0.0024	0.87	-0.084	1x10 ⁻⁹	0.099	8x10 ⁻¹⁴	0.14	0.0052
rs492571	15	41998565	T	C	0.0033	0.73	0.066	2x10 ⁻¹³	-0.08	2x10 ⁻¹⁹	-0.081	0.019
rs1532085	15	56470658	A	G	0.0026	0.48	0.11	2x10 ⁻²⁰⁹	0.031	5x10 ⁻²⁰	0.0067	0.65
rs261342	15	56518445	C	G	0.0026	0.69	-0.11	6x10 ⁻⁷¹	-0.045	4x10 ⁻¹⁴	-0.014	0.42
rs2652834	15	61183920	A	G	0.0019	0.68	-0.029	4x10 ⁻¹¹	0.025	4x10 ⁻⁹	0.013	0.48
rs1035744	15	70353669	T	C	0.0069	0.095	-0.0055	0.15	0.021	4x10 ⁻⁸	0.019	0.23
rs3198697	16	15037441	T	C	0.0096	0.01	0.016	3x10 ⁻⁶	-0.02	4x10 ⁻⁹	-0.017	0.23
rs749671	16	30995848	A	G	-0.015	4x10 ⁻⁵	0.0071	0.041	-0.021	4x10 ⁻¹⁰	-0.0054	0.7
rs9930333	16	52357478	T	G	0.0002	0.96	0.02	1x10 ⁻⁷	-0.021	1x10 ⁻⁸	-0.04	0.005
rs9989419	16	55542640	A	G	0.028	8x10 ⁻¹³	-0.15	8x10 ⁻³⁷³	0.024	3x10 ⁻¹²	0.01	0.61
rs5880	16	55572592	C	G	0.047	9x10 ⁻⁷	-0.31	4x10 ⁻²⁵⁷	0.048	3x10 ⁻⁸	0.023	0.62
rs16942887	16	66485543	A	G	0.0011	0.84	0.083	1x10 ⁻⁶⁰	-0.012	0.020	-0.027	0.21
rs2288002	16	70614783	A	G	-0.029	5x10 ⁻¹⁴	-0.0069	0.050	-0.0089	0.009	-0.022	0.11
rs2000999	16	70665594	A	G	0.065	1x10 ⁻⁴⁵	0.0023	0.59	0.019	9x10 ⁻⁶	0.04	0.03
rs2925979	16	80092291	T	C	-0.0031	0.44	-0.035	4x10 ⁻²¹	0.021	2x10 ⁻⁸	0.026	0.11
rs314253	17	7032374	T	C	0.024	2x10 ⁻¹⁰	-0.003	0.4	0.0086	0.012	0.01	0.49
rs4791641	17	8101874	T	C	-0.02	4x10 ⁻⁸	-0.0041	0.23	0.0028	0.4	-0.02	0.15
rs931992	17	35074961	T	G	0.0055	0.15	0.034	3x10 ⁻²¹	-0.0083	0.018	-0.0045	0.76
rs8077889	17	39233692	A	C	-0.0005	0.91	0.021	2x10 ⁻⁶	-0.025	2x10 ⁻⁹	0.03	0.1
rs7225700	17	42746803	T	C	-0.03	8x10 ⁻¹⁵	-0.0098	0.006	0.0046	0.19	-0.015	0.33
rs4148005	17	64394061	T	G	-0.015	1x10 ⁻⁵	0.028	6x10 ⁻¹⁵	-0.0066	0.063	-0.042	0.0052
rs4969178	17	73899797	A	G	-0.011	0.0033	-0.026	4x10 ⁻¹⁴	0.018	3x10 ⁻⁷	-0.0068	0.63
rs4939883	18	45421212	T	C	-0.021	1x10 ⁻⁵	-0.08	1x10 ⁻⁷¹	-0.0052	0.23	-0.0057	0.75
rs11660468	18	45463141	T	C	0.011	0.0028	0.039	9x10 ⁻³⁰	-0.0008	0.82	0.025	0.08
rs952044	18	55949090	T	C	-0.0033	0.41	-0.023	3x10 ⁻¹⁰	0.01	0.0043	0.03	0.042

rs2278236	19	8337581	A	G	0.0067	0.074	0.033	7×10^{-21}	-0.014	4×10^{-5}	-0.025	0.14
rs6511720	19	11063306	T	G	-0.22	3×10^{-289}	0.025	1×10^{-5}	-0.0084	0.13	-0.13	2×10^{-4}
rs688	19	11088602	T	C	0.054	9×10^{-48}	-0.011	2×10^{-3}	0.0041	0.22	0.056	7×10^{-5}
rs10401969	19	19268718	T	C	0.12	2×10^{-60}	-0.013	0.057	0.12	3×10^{-76}	0.11	2×10^{-4}
rs731839	19	38590905	A	G	0.0018	0.66	0.022	2×10^{-9}	-0.022	5×10^{-10}	-0.021	0.2
rs1688030	19	40248584	T	C	-0.016	0.031	-0.0085	0.22	-0.038	3×10^{-8}	0.0051	0.85
rs6859	19	50073874	A	G	0.084	1×10^{-101}	-0.018	1×10^{-6}	0.014	6×10^{-5}	0.019	0.35
rs7254892	19	50081436	A	G	-0.49	8×10^{-365}	0.053	3×10^{-6}	0.12	4×10^{-31}	-0.14	0.09
rs492602	19	53898229	A	G	-0.029	3×10^{-14}	0.0032	0.38	-0.014	7×10^{-5}	-0.001	0.95
rs17695224	19	57016028	A	G	-0.011	0.011	-0.029	2×10^{-13}	0.012	0.0021	0.015	0.36
rs103294	19	59489660	T	C	0.0073	0.12	0.052	4×10^{-33}	-0.0021	0.61	-0.013	0.51
rs364585	20	12910718	A	G	-0.025	4×10^{-11}	-0.0005	0.88	0.0018	0.6	-0.0072	0.61
rs2328223	20	17793921	A	C	-0.03	2×10^{-9}	0.0004	0.93	0.0066	0.14	0.0053	0.85
rs7264396	20	33618155	T	C	-0.025	3×10^{-8}	-0.0054	0.19	-0.011	8×10^{-3}	0.026	0.32
rs6016381	20	38613850	T	C	0.036	6×10^{-22}	-0.0084	0.016	0.014	3×10^{-5}	0.016	0.27
rs6065311	20	39157752	T	C	-0.042	3×10^{-30}	-0.0024	0.48	-0.0061	0.067	-0.019	0.17
rs1800961	20	42475778	T	C	-0.069	1×10^{-10}	-0.13	7×10^{-38}	-0.0017	0.86	0.030	0.49
rs4465830	20	44018827	A	G	-0.009	0.056	0.06	4×10^{-42}	-0.053	5×10^{-36}	0.039	0.027
rs181362	22	20262068	T	C	-0.0076	0.091	-0.038	7×10^{-20}	-0.0095	0.02	0.0015	0.93
rs5763662	22	28708703	T	C	0.077	2×10^{-10}	0.033	0.0031	-0.0001	0.99	-0.0097	0.85
rs3761445	22	36925357	A	G	0.0081	0.029	-0.016	5×10^{-6}	0.023	7×10^{-12}	-0.027	0.061

Effect size is with respect to allele1; a1: allele 1; a2: allele.

Supplementary Table 2. For SNPs with moderate effect on triglycerides but minimal effect on LDL-C, the association of LDL-C effect size with CAD effect size.

Outcome	Predictor	Beta	SE	P
β_{CAD}	β_{LDL-C}	0.49	1.18	0.68

N=44 SNPs, $(-0.01 < \beta_{LDL-C} < 0.01)$ and $(\beta_{TRIGLYCERIDES} < -0.01 \text{ or } \beta_{TRIGLYCERIDES} > 0.01)$

No association of β_{LDL-C} on β_{CAD} is observed after restricting to SNPs with minimal effect on LDL-C but moderate to strong effect on triglycerides. SE: standard error.

Supplementary Table 3. For SNPs with moderate effect on triglycerides but minimal effect on LDL-C, the association of triglyceride effect size with CAD effect size.

Outcome	Predictor	Beta	SE	P
β_{CAD}	$\beta_{\text{TRIGLYCERIDES}}$	0.51	0.11	3×10^{-5}

N=44 SNPs, $(-0.01 < \beta_{\text{LDL-C}} < 0.01)$ and $(\beta_{\text{TRIGLYCERIDES}} < -0.01 \text{ or } \beta_{\text{TRIGLYCERIDES}} > 0.01)$

Significant association of $\beta_{\text{TRIGLYCERIDES}}$ on β_{CAD} is observed after restricting SNPs with minimal effect on LDL-C but moderate to strong effect on triglycerides. SE: standard error.

Supplementary Table 4. For 185 SNPs, the correlation in effect sizes for LDL-C, HDL-C, triglycerides, and CAD.

	$\beta_{\text{HDL-C}}$	$\beta_{\text{TRIGLYCERIDES}}$	β_{CAD}
$\beta_{\text{LDL-C}}$	-0.14 (0.05)	0.031 (0.67)	0.61 (<0.0001)
$\beta_{\text{HDL-C}}$		-0.30 (<0.0001)	-0.25 (0.0006)
$\beta_{\text{TRIGLYCERIDES}}$			0.40 (<0.0001)

The correlation matrix shows that $\beta_{\text{LDL-C}}$, $\beta_{\text{HDL-C}}$, $\beta_{\text{TRIGLYCERIDES}}$ and β_{CAD} are correlated for 185 lipid SNPs. Pearson r values are shown. *P* value for each correlation is shown in parentheses.

Supplementary Table 5. Association of the magnitude of a SNP's effect on a lipid fraction with its magnitude of effect on CAD risk when jointly considered in a multiple linear regression model.

Outcome	Predictor	Beta	SE	P
β_{CAD}	$\beta_{\text{LDL-C}}$	0.39	0.035	1×10^{-22}
	$\beta_{\text{HDL-C}}$	0.039	0.039	0.32
	$\beta_{\text{TRIGLYCERIDES}}$	0.40	0.060	2×10^{-10}

A total of 185 SNPs identified from GWAS for triglycerides, LDL-C, and HDL-C were included in regression analysis. $\beta_{\text{TRIGLYCERIDES}}$, $\beta_{\text{LDL-C}}$ and $\beta_{\text{HDL-C}}$ represent the effect sizes for a SNP on triglycerides, LDL-C and HDL-C in a GWAS meta-analysis for lipids. Regression was performed with all three predictor variables of the effect size on lipid traits ($\beta_{\text{TRIGLYCERIDES}}$, $\beta_{\text{LDL-C}}$ and $\beta_{\text{HDL-C}}$) and the outcome variable of CAD effect size (β_{CAD}) in a multiple linear regression model. SE: standard error.

Supplementary Table 6. Number of SNPs with consistent direction of effects for both triglycerides and LDL-C for different factor thresholds.

Factor	Number of SNPs with CAD $P < 0.05$	Number of total SNPs
2	3	8
3	3	9
4	4	10
5	5	11

We show the number of SNPs with consistent direction of effects for both triglycerides and LDL-C for different factor thresholds. We observed similar results for the different factor thresholds.

Supplementary Table 7. Number of SNPs with opposite direction of effects for both triglycerides and LDL-C for different factor thresholds.

Factor	Number of SNPs with CAD $P < 0.05$	Number of total SNPs
2	0	3
3	0	3
4	0	4
5	0	4

We show the number of SNPs with opposite direction of effects for both triglycerides and LDL-C for different factor thresholds. We observed similar results for the different factor thresholds.

Supplementary Table 8. For SNPs with moderate effect on triglycerides but minimal effect on LDL-C, the association of LDL-C effect size and triglyceride effect size with CAD effect size at different cutoff values.

β cutoff value ¹	Predictor ²	Beta	SE	P	Number of SNPs
0.005	β LDL-C	-2.92	2.52	0.26	33
0.005	β TRIGLYCERIDES	0.51	0.17	6x10 ⁻³	33
0.01	β LDL-C	0.49	1.18	0.68	44
0.01	β TRIGLYCERIDES	0.51	0.11	3x10 ⁻⁵	44
0.02	β LDL-C	1.28	0.60	0.04	42
0.02	β TRIGLYCERIDES	0.47	0.10	4x10 ⁻⁵	42
0.03	β LDL-C	1.27	0.70	0.08	23
0.03	β TRIGLYCERIDES	0.45	0.13	2x10 ⁻³	23

¹ β cutoff value refers to set of SNPs with large β TRIGLYCERIDES (greater than positive cutoff value or less than the negative cutoff value) but small β LDL-C (between negative and positive cutoff value)]. ² Predictor refers to predictor variable tested in single linear regression model with β CAD. Beta, SE, and P are results from single linear regression model with β CAD. SE: standard error.

Supplementary Table 9. Association of the strength of a SNP's effect on plasma lipids with its strength of effect on CAD risk, after removing three outliers for Cook's D statistic.

Outcome	Predictor	Covariate	Beta	SE	P
β_{CAD}	β_{LDL-C}	-	0.41	0.037	6×10^{-22}
β_{CAD}	β_{LDL-C}	β_{HDL-C}	0.38	0.035	1×10^{-20}
β_{CAD}	β_{LDL-C}	$\beta_{TRIGLYCERIDES}$	0.40	0.032	1×10^{-25}
β_{CAD}	β_{LDL-C}	$\beta_{HDL-C}, \beta_{TRIGLYCERIDES}$	0.38	0.032	4×10^{-24}
β_{CAD}	β_{HDL-C}	-	-0.30	0.065	9×10^{-6}
β_{CAD}	β_{HDL-C}	β_{LDL-C}	-0.21	0.051	6×10^{-5}
β_{CAD}	β_{HDL-C}	$\beta_{TRIGLYCERIDES}$	-0.14	0.062	0.023
β_{CAD}	β_{HDL-C}	$\beta_{LDL-C}, \beta_{TRIGLYCERIDES}$	-0.065	0.046	0.16
β_{CAD}	$\beta_{TRIGLYCERIDES}$	-	0.44	0.076	2×10^{-8}
β_{CAD}	$\beta_{TRIGLYCERIDES}$	β_{LDL-C}	0.42	0.056	3×10^{-12}
β_{CAD}	$\beta_{TRIGLYCERIDES}$	β_{HDL-C}	0.30	0.075	1×10^{-4}
β_{CAD}	$\beta_{TRIGLYCERIDES}$	$\beta_{LDL-C}, \beta_{HDL-C}$	0.31	0.056	1×10^{-7}

We tested conditional models in **Table 3** after removing the three most influential observations using Cook's D statistic¹. Residuals for β_{CAD} were calculated after adjustment of a SNP's effect on the denoted lipid trait. SNPs identified from GWAS for LDL-C, HDL-C and triglycerides were included in regression analysis. β_{LDL-C} , β_{HDL-C} , and $\beta_{TRIGLYCERIDES}$ represent the effect sizes for a SNP on LDL-C, HDL-C and triglycerides in the GWAS meta-analysis for lipids. Regression was performed with the predictor variable of the effect size on lipid traits (β from predictor column) and the outcome variable of residual CAD effect size after adjusting for covariates. SE: standard error.

Supplementary Table 10. Number of SNPs included for various analyses performed in the study.

Analyses performed in following figures/tables	Number of SNPs
Figure 1	174
Table 1	11
Table 2	4
Table 3	185
Supplementary Figure 2	185
Supplementary Figure 3	185
Supplementary Table 2	44
Supplementary Table 3	44
Supplementary Table 4	185
Supplementary Table 5	185
Supplementary Table 9	182

Shown are the number of SNPs included for various analyses performed in the various figures and tables.

1. Cook, R.D. Detection of Influential Observations in Linear Regression. *Technometrics* **19**, 15-18 (1977).