Meta-analysis reported association of the IL6 gene -176G>C variant with diseases and disease traits

Disease/trait	Number of subjects	Association with 174C allele	Reference
Diabetes	5383 diabetes case and 12 069 controls	No association with diabetes risk.	Qi L, van Dam RM, Meigs JB, Manson JE, Hunter D, Hu FB. Genetic variation in IL6 gene and type 2 diabetes: tagging-SNP haplotype analysis in large-scale case-control study and meta-analysis.Hum Mol Genet. 2006 Jun 1;15(11):1914-20.
Diabetes	>20,000 participants from 21 published and unpublished studies	GC and CC genotypes associated with a decreased risk of type 2 diabetes (odds ratio 0.91, P = 0.037),	Huth C, Heid IM, Vollmert C, Gieger C, Grallert H, Wolford JK, Langer B, Thorand B, Klopp N, Hamid YH, Pedersen O, Hansen T, Lyssenko V, Groop L, Meisinger C, Döring A, Löwel H, Lieb W, Hengstenberg C, Rathmann W, Martin S, Stephens JW, Ireland H, Mather H, Miller GJ, Stringham HM, Boehnke M, Tuomilehto J, Boeing H, Möhlig M, Spranger J, Pfeiffer A, Wernstedt I, Niklason A, López-Bermejo A, Fernández-Real JM, Hanson RL, Gallart L, Vendrell J, Tsiavou A, Hatziagelaki E, Humphries SE, Wichmann HE, Herder C, Illig T. IL6 gene promoter polymorphisms and type 2 diabetes: joint analysis of individual participants' data from 21 studies. Diabetes. 2006 Oct;55(10):2915-21
Adiposity and BMI	26,944 individuals	Haplotype carrying C allele associated with greater waist circumference (P = 0.009 in men; P = 0.0003 in women) and baseline body mass index (BMI)	Qi L, Zhang C, van Dam RM, Hu FB. Interleukin-6 genetic variability and adiposity: associations in two prospective cohorts and systematic review in 26,944 individuals.J Clin Endocrinol Metab. 2007 Sep;92(9):3618-25.
Pulse Wave velocity	3849	Pulse wave velocity 0.35 m/s higher for CC vs. GG-homozygotes (p = 0.018) with evidence for an allele-dose effect (p trend = 0.013), and a similar pattern for pulse pressure (p trend = 0.041).	Sie MP, Mattace-Raso FU, Uitterlinden AG, Arp PP, Hofman A, Pols HA, Hoeks AP, Reneman RS, Asmar R, van Duijn CM, Witteman JC. The interleukin-6-174 G/C promoter polymorphism and arterial stiffness; the Rotterdam Study. Vasc Health Risk Manag. 2008;4(4):863-9.
Fasting Glucose, IL-6 levels and BMI	More than 25,0000	C-allele carriers exhibit lower fasting glucose (-0.091 mmol/L, P=0.014).No evidence for association with BMI or interleukin-6 levels, except in some subgroups.	Huth C, Illig T, Herder C, Gieger C, Grallert H, Vollmert C, Rathmann W, Hamid YH, Pedersen O, Hansen T, Thorand B, Meisinger C, Doring A, Klopp N, Gohlke H, Lieb W, Hengstenberg C, Lyssenko V, Groop L, Ireland H, Stephens JW, Wernstedt Asterholm I, Jansson JO, Boeing H, Mohlig M, Stringham HM, Boehnke M, Tuomilehto J, Fernandez-Real JM, Lopez-Bermejo A, Gallart L, Vendrell J, Humphries SE, Kronenberg F, Wichmann HE, Heid IM. Joint analysis of individual participants' data from 17 studies on the association of the IL6 variant -174G>C with circulating glucose levels, interleukin-6 levels, and body mass index. Ann Med. 2009;41(2):128-38
Peripheral Arterial Disease	4 studies - numbers Not reported	G vs C RR = 1.4 (ie C allele protective)	Zintzaras E, Zdoukopoulos N. A field synopsis and meta-analysis of genetic association studies in peripheral arterial disease: The CUMAGAS-PAD database. Am J Epidemiol. 2009 Jul 1;170(1):1-11
Miscarriage	5 studies - numbers not reported	In five case-control studies the OR for RM under a recessive model was 1.29 (0.69-2.40)	Medica I, Ostojic S, Pereza N, Kastrin A, Peterlin B. Association between genetic polymorphisms in cytokine genes and recurrent miscarriage--a meta-analysis.Reprod Biomed Online. 2009 Sep;19(3):406-14
Intracranial aneurysms	(6622 cases and 13,339 controls).	C allele confers a significant protective effect against IA (OR 0.49, 95% CI 0.25-0.95; p = 0.04).	McColgan P, Thant KZ, Sharma P. The genetics of sporadic ruptured and unruptured intracranial aneurysms: a genetic meta-analysis of 8 genes and 13 polymorphisms in approximately 20,000 individuals. J Neurosurg. 2010 Apr;112(4):714-21

Breast Cancer	10,137 cases and 15,566 controls	no evidence for a significant association between -174G > C and breast cancer risk (for CC vs. GG: OR = 1.024)	Yu KD, Di GH, Fan L, Chen AX, Yang C, Shao ZM. Lack of an association between a functional polymorphism in the interleukin-6 gene promoter and breast cancer risk: a meta-analysis involving 25,703 subjects. Breast Cancer Res Treat. 2010 Jul;122(2):483-8
Metabolic Syndrome	~4000 cases	C allele →increased MetS risk in three out of four studies	Povel CM, Boer JM, Reiling E, Feskens EJ. Genetic variants and the metabolic syndrome: a systematic review. Obes Rev. 2011 Nov;12(11):952-67
Colorectal Cancer		C allele carriers have significantly lower risk of Colorectal cancer, but only in the setting of NSAIDs use.	Yu Y, Wang W, Zhai S, Dang S, Sun M. IL6 gene polymorphisms and susceptibility to colorectal cancer: a meta-analysis and review. Mol Biol Rep. 2012 Aug;39(8):8457-63
All cancer	44,735 patients and 60,747 controls	Higher risk for CC vs GG in African populations (OR=1.83, 95% CI 1.26-2.67, P=0.002), but not in Caucasian populations (OR=1.00, 95% CI 0.92-1.08, P=0.938).	Liu RY, Song X, Chen P, Lei Z, Miao J, Yi N, Zhang K, Pasche B, Zhang HT. Association between IL6 -174G/C and cancer: A meta-analysis of 105,482 individuals.Exp Ther Med. 2012 Apr;3(4):655-664
CHD and MI	9619 CHD cases and 10,919 controls	In Caucasians C/C+C/G vs. G/G: OR=1.10, 95% CI=0.99-1.22, p=0.07; In Asians C/C+C/G vs. G/G: OR=1.35, 95% CI=1.05-1.63, p=0.02.	Yin YW, Hu AM, Sun QQ, Liu HL, Wang Q, Zeng YH, Xu RJ, Hou ZZ, Zhang ZD, Zhang SJ, Zhou MQ.Association between interleukin-6 gene -174 G/C polymorphism and the risk of coronary heart disease: a meta-analysis of 20 studies including 9619 cases and 10,919 controls. Gene. 2012 Jul 15;503(1):25-30.

PubMed was used to search for “IL6 gene and meta-analysis” and “IL6 gene and CHD”