

GEPHE SUMMARY

	Gephebase Gene		GepheID
natriuretic peptide receptor 3 (NPR3) (<a +natriuretic+peptide+receptor+3+(npr3)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase="+natriuretic+peptide+receptor+3+(NPR3)+"#gephebase-summary-title)		GP00000720	
	Entry Status	Martin	Main curator
Published			

PHENOTYPIC CHANGE

	Trait Category		
Morphology (<a +morphology+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait+Category=">https://www.gephebase.org/search-criteria?/and+Trait+Category="+Morphology+"#gephebase-summary-title)		Trait	
Body size (height) (<a +body+size+(height)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Body+size+(height)+"#gephebase-summary-title)			
	Trait State in Taxon A		
Homo sapiens - Northern European		Trait State in Taxon B	
Homo sapiens - Northern European			
	Ancestral State		
Data not curated		Taxonomic Status	
Intraspecific (<a +intraspecific+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=">https://www.gephebase.org/search-criteria?/and+Taxonomic+Status="+Intraspecific+"#gephebase-summary-title)			
	Taxon A		Taxon B
	Latin Name		Latin Name
Homo sapiens (<a +homo+sapiens+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Homo+sapiens+"#gephebase-summary-title)		Homo sapiens (<a +homo+sapiens+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Homo+sapiens+"#gephebase-summary-title)	
	Common Name		Common Name
human		human	
	Synonyms		Synonyms
human; man; Homo sapiens Linnaeus, 1758; Home sapiens; Homo sampiens; Homo sapeins; Homo sapian; Homo sapians; Homo sapien; Homo sapience; Homo sapiense; Homo sapients; Homo sapines; Homo spaiens; Homo spiens; Humo sapiens		human; man; Homo sapiens Linnaeus, 1758; Home sapiens; Homo sampiens; Homo sapeins; Homo sapian; Homo sapians; Homo sapien; Homo sapience; Homo sapiense; Homo sapients; Homo sapines; Homo spaiens; Homo spiens; Humo sapiens	
	Rank		Rank
species		species	
	Lineage		Lineage
cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Deuterostomia; Chordata; Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Boreoeutheria; Euarchontoglires; Primates; Haplorrhini; Simiiformes; Catarrhini; Hominoidea; Hominidae; Homininae; Homo		cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Deuterostomia; Chordata; Craniata; Vertebrata; Gnathostomata; Teleostomi; Euteleostomi; Sarcopterygii; Dipnotetrapodomorpha; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Boreoeutheria; Euarchontoglires; Primates; Haplorrhini; Simiiformes; Catarrhini; Hominoidea; Hominidae; Homininae; Homo	
	Parent		Parent
Homo () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9605)		Homo () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9605)	
	NCBI Taxonomy ID		NCBI Taxonomy ID
9606 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9606)		9606 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=9606)	
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?
No		No	

GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB Arabidopsis thaliana
NPR3		Q8L746 (http://www.uniprot.org/uniprot/Q8L746)	
	Synonyms		GenebankID or UniProtKB
ATNPR3; K17O22.11; K17O22_11; NPR1-like protein 3; At5g45110		NP_000899 (https://www.ncbi.nlm.nih.gov/nuccore/NP_000899)	
	String		
3702.AT5G45110.1 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=3702.AT5G45110.1)			
	Sequence Similarities		
-			
	GO - Molecular Function		
GO:1901149 : salicylic acid binding (https://www.ebi.ac.uk/QuickGO/term/GO:1901149)			
	GO - Biological Process		
GO:0009816 : defense response to bacterium, incompatible interaction			

(<https://www.ebi.ac.uk/QuickGO/term/GO:0009816>)
GO:0016567 : protein ubiquitination (<https://www.ebi.ac.uk/QuickGO/term/GO:0016567>)
GO:0042742 : defense response to bacterium
(<https://www.ebi.ac.uk/QuickGO/term/GO:0042742>)
GO:0050832 : defense response to fungus
(<https://www.ebi.ac.uk/QuickGO/term/GO:0050832>)
GO:0009817 : defense response to fungus, incompatible interaction
(<https://www.ebi.ac.uk/QuickGO/term/GO:0009817>)
GO:0080185 : effector dependent induction by symbiont of host immune response
(<https://www.ebi.ac.uk/QuickGO/term/GO:0080185>)
GO:2000022 : regulation of jasmonic acid mediated signaling pathway
(<https://www.ebi.ac.uk/QuickGO/term/GO:2000022>)
GO:0009627 : systemic acquired resistance
(<https://www.ebi.ac.uk/QuickGO/term/GO:0009627>)

GO - Cellular Component

GO:0005634 : nucleus (<https://www.ebi.ac.uk/QuickGO/term/GO:0005634>)

Unknown (<https://www.gephebase.org/search-criteria?/and+Presumptive Null=^Unknown^#gephebase-summary-title>)

Unknown (<https://www.gephebase.org/search-criteria?/and+Molecular Type=^Unknown^#gephebase-summary-title>)

Unknown (<https://www.gephebase.org/search-criteria?/and+Aberration Type=^Unknown^#gephebase-summary-title>)

unknown

Association Mapping (<https://www.gephebase.org/search-criteria?/and+Experimental Evidence=^Association Mapping^#gephebase-summary-title>)

A genome-wide association study of northwestern Europeans involves the C-type natriuretic peptide signaling pathway in the etiology of human height variation. (2009)
(<https://pubmed.ncbi.nlm.nih.gov/19570815>)

Estrada K; Krawczak M; Schreiber S; van Duijn K; Stolk L; van Meurs JB; Liu F; Penninx BW; Smit JH; Vogelzangs N; Hottenga JJ; Willemsen G; de Geus EJ; Lorentzon M; von Eller-Eberstein H; Lips P; Schoor N; Pop V; de Keijzer J; Hofman A; Aulchenko YS; Oostra BA; Ohlsson C; Boomsma DI; Uitterlinden AG; van Duijn CM; Rivadeneira F; Kayser M

Northwestern Europeans are among the tallest of human populations. The increase in body height in these people appears to have reached a plateau, suggesting the ubiquitous presence of an optimal environment in which genetic factors may have exerted a particularly strong influence on human growth. Therefore, we performed a genome-wide association study (GWAS) of body height using 2.2 million markers in 10 074 individuals from three Dutch and one German population-based cohorts. Upon genotyping, the 12 most significantly height-associated single nucleotide polymorphisms (SNPs) from this GWAS in 6912 additional individuals of Dutch and Swedish origin, a genetic variant (rs6717918) on chromosome 2q37.1 was found to be associated with height at a genome-wide significance level (P(combined) = 3.4 x 10⁽⁻⁹⁾). Notably, a second SNP (rs6718438) located approximately 450 bp away and in strong LD (r⁽²⁾ = 0.77) with rs6717918 was previously found to be suggestive of a height association in 29 820 individuals of mainly northwestern European ancestry, and the over-expression of a nearby natriuretic peptide precursor type C (NPPC) gene, has been associated with overgrowth and skeletal anomalies. We also found a SNP (rs10472828) located on 5p14 near the natriuretic peptide receptor 3 (NPR3) gene, encoding a receptor of the NPPC ligand, to be associated with body height (P(combined) = 2.1 x 10⁽⁻⁷⁾). Taken together, these results suggest that variation in the C-type natriuretic peptide signaling pathway, involving the NPPC and NPR3 genes, plays an important role in determining human body height.

Meta-analysis of genome-wide scans for human adult stature identifies novel Loci and associations with measures of skeletal frame size. (2009) (<https://pubmed.ncbi.nlm.nih.gov/19343178>)

RELATED GEPHE

23 (ADAMTS10, agrecan, CREBRF, DC-STAMP domain containing 2 (DCST2), DYM, EIF2AK3, FTO, GDF5, GHSR, GPR133, Growth Hormone Receptor (GHR), HMGA2, Insulin-like growth factor receptor 1 (IGF1R), JAZF1, KCNQ1, LCORL, LIN28B, natriuretic peptide precursor type C (NPPC), Patched1 (Ptc1), PPAR-delta, TRIP11 (=GMAP-210), SMAD family member 2 (SMAD2), stanniocalcin 2 (STC2)) (<https://www.gephebase.org/search-criteria?/or+Taxon ID=^9606^/and+Trait=Body size/and+groupHaplotypes=true#gephebase-summary-title>)

No matches found.

EXTERNAL LINKS

COMMENTS

