

GEPHE SUMMARY

ENSA (<a +ensa+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+GeneGephebase=">https://www.gephebase.org/search-criteria?/and+GeneGephebase="+ENSA+"#gephebase-summary-title)	Gephebase Gene	GP00001558	GepheID
	Entry Status	Prigent	Main curator
	Published		

PHENOTYPIC CHANGE

Physiology (<a +physiology+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+TraitCategory=">https://www.gephebase.org/search-criteria?/and+TraitCategory="+Physiology+"#gephebase-summary-title)		Trait Category	
Body fat distribution (pericardial) (<a (pericardial)+"#gephebase-summary-title"="" +body="" distribution="" fat="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Body fat distribution (pericardial)+"#gephebase-summary-title)		Trait	
Human of European & African & Chinese & Hispanic cohorts		Trait State in Taxon A	
human of European & African & Chinese & Hispanic cohorts		Trait State in Taxon B	
Unknown		Ancestral State	
Intraspecific (<a +intraspecific+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+TaxonomicStatus=">https://www.gephebase.org/search-criteria?/and+TaxonomicStatus="+Intraspecific+"#gephebase-summary-title)		Taxonomic Status	
Taxon A		Taxon B	
Homo sapiens (<a +homo="" href="https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=" sapiens+"#gephebase-summary-title"="">https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms="+Homo sapiens+"#gephebase-summary-title)		Homo sapiens (<a +homo="" href="https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=" sapiens+"#gephebase-summary-title"="">https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms="+Homo sapiens+"#gephebase-summary-title)	
human		human	
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	
species		species	
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	
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)	
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)	
No		No	

GENOTYPIC CHANGE

ENSA	Generic Gene Name	O43768 (http://www.uniprot.org/uniprot/O43768)	UniProtKB Homo sapiens
ARPP-19e	Synonyms		GenebankID or UniProtKB
-	String		
	Sequence Similarities		
Belongs to the endosulfine family.	GO - Molecular Function		
GO:0005102 : signaling receptor binding (https://www.ebi.ac.uk/QuickGO/term/GO:0005102)			
GO:0019888 : protein phosphatase regulator activity (https://www.ebi.ac.uk/QuickGO/term/GO:0019888)			
GO:0008200 : ion channel inhibitor activity (https://www.ebi.ac.uk/QuickGO/term/GO:0008200)			

GO:0019212 : phosphatase inhibitor activity
(<https://www.ebi.ac.uk/QuickGO/term/GO:0019212>)
GO:0019870 : potassium channel inhibitor activity
(<https://www.ebi.ac.uk/QuickGO/term/GO:0019870>)
GO:0051721 : protein phosphatase 2A binding
(<https://www.ebi.ac.uk/QuickGO/term/GO:0051721>)
GO:0004864 : protein phosphatase inhibitor activity
(<https://www.ebi.ac.uk/QuickGO/term/GO:0004864>)

GO - Biological Process

GO:0051301 : cell division (<https://www.ebi.ac.uk/QuickGO/term/GO:0051301>)
GO:0000278 : mitotic cell cycle (<https://www.ebi.ac.uk/QuickGO/term/GO:0000278>)
GO:0050796 : regulation of insulin secretion
(<https://www.ebi.ac.uk/QuickGO/term/GO:0050796>)
GO:0009749 : response to glucose (<https://www.ebi.ac.uk/QuickGO/term/GO:0009749>)
GO:0007584 : response to nutrient (<https://www.ebi.ac.uk/QuickGO/term/GO:0007584>)
GO:0000086 : G2/M transition of mitotic cell cycle
(<https://www.ebi.ac.uk/QuickGO/term/GO:0000086>)
GO:0035308 : negative regulation of protein dephosphorylation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0035308>)

GO - Cellular Component

GO:0005737 : cytoplasm (<https://www.ebi.ac.uk/QuickGO/term/GO:0005737>)
GO:0005654 : nucleoplasm (<https://www.ebi.ac.uk/QuickGO/term/GO:0005654>)

Presumptive Null

No ([https://www.gephebase.org/search-criteria?/and+Presumptive Null="+No^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Presumptive Null=))

Molecular Type

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

Aberration Type

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

Molecular Details of the Mutation

A>G in associated SNP

Experimental Evidence

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

Main Reference

Multiethnic genome-wide meta-analysis of ectopic fat depots identifies loci associated with adipocyte development and differentiation. (2017) (<https://pubmed.ncbi.nlm.nih.gov/27918534>)

Authors

Chu AY; Deng X; Fisher VA; Drong A; Zhang Y; Feitosa MF; Liu CT; Weeks O; Choh AC; Duan Q; Dyer TD; Eicher JD; Guo X; Heard-Costa NL; Kacprowski T; Kent JW; Lange LA; Liu X; Lohman K; Lu L; Mahajan A; O'Connell JR; Parihar A; Peralta JM; Smith AV; Zhang Y; Homuth G; Kissebah AH; Kullberg J; Laqua R; Launer LJ; Nauck M; Olivier M; Peyser PA; Terry JG; Wojczynski MK; Yao J; Bielak LF; Blangero J; Borecki IB; Bowden DW; Carr JJ; Czerwinski SA; Ding J; Friedrich N; Gudnason V; Harris TB; Ingelsson E; Johnson AD; Kardia SL; Langefeld CD; Lind L; Liu Y; Mitchell BD; Morris AP; Mosley TH; Rotter JL; Shuldiner AR; Towne B; VÃ¶lzlke H; Wallaschofski H; Wilson JG; Allison M; Lindgren CM; Goessling W; Cupples LA; Steinhauser ML; Fox CS

Abstract

Variation in body fat distribution contributes to the metabolic sequelae of obesity. The genetic determinants of body fat distribution are poorly understood. The goal of this study was to gain new insights into the underlying genetics of body fat distribution by conducting sample-size-weighted fixed-effects genome-wide association meta-analyses in up to 9,594 women and 8,738 men of European, African, Hispanic and Chinese ancestry, with and without sex stratification, for six traits associated with ectopic fat (hereinafter referred to as ectopic-fat traits). In total, we identified seven new loci associated with ectopic-fat traits (ATXN1, UBE2E2, EBF1, RREB1, GSDMB, GRAMD3 and ENSA; P < 5 Å— 10; false discovery rate < 1%). Functional analysis of these genes showed that loss of function of either Atxn1 or Ube2e2 in primary mouse adipose progenitor cells impaired adipocyte differentiation, suggesting physiological roles for ATXN1 and UBE2E2 in adipogenesis. Future studies are necessary to further explore the mechanisms by which these genes affect adipocyte biology and how their perturbations contribute to systemic metabolic disease.

Additional References

RELATED GEPHE

Related Genes

10 (ATXN1, EBF1, FTO, GRAMD3, GSDMB, LY86, LYPLAL1, RREB1, TRIB2, UBE2E2) ([https://www.gephebase.org/search-criteria?/or+Taxon ID="+9606^/and+Trait=Body fat distribution/and+groupHaplotypes=true#gephebase-summary-title](https://www.gephebase.org/search-criteria?/or+Taxon ID=))

Related Haplotypes

No matches found.

EXTERNAL LINKS

COMMENTS

