

GEPHE SUMMARY

CS (<a +cs`#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene Gephebase=`CS`#gephebase-summary-title)	Gephebase Gene	GepheID
	GP00001447	
	Entry Status	Main curator
Published	Prigent	

PHENOTYPIC CHANGE

Physiology (<a +physiology`#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait+Category=">https://www.gephebase.org/search-criteria?/and+Trait Category=`Physiology`#gephebase-summary-title)		Trait Category		
Plant secondary metabolite (pungency) (<a +plant+secondary+metabolite+(pungency)`#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait=`Plant secondary metabolite (pungency)`#gephebase-summary-title)		Trait		
C. frutescens BG2816 (a pungent wild pepper)		Trait State in Taxon A		
C. annuum Bellpeppers		Trait State in Taxon B		
Taxon A		Ancestral State		
Domesticated (<a +domesticated`#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=">https://www.gephebase.org/search-criteria?/and+Taxonomic Status=`Domesticated`#gephebase-summary-title)		Taxonomic Status		
Taxon A			Taxon B	
Capsicum frutescens (<a +capsicum+frutescens`#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=`Capsicum frutescens`#gephebase-summary-title)		Latin Name	Capsicum annuum (<a +capsicum+annuum`#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=`Capsicum annuum`#gephebase-summary-title)	Latin Name
-		Common Name	-	Common Name
bird pepper; chili pepper; hot pepper; Capsicum frutescens L.		Synonyms	Capsicum annuum L.; Capsicum annum; Capsicum capsicum	Synonyms
species		Rank	species	Rank
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetales; asterids; lamiids; Solanales; Solanaceae; Solanoideae; Capsiceae; Capsicum		Lineage	cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; asterids; lamiids; Solanales; Solanaceae; Solanoideae; Capsiceae; Capsicum	Lineage
Capsicum (peppers) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4071)		Parent	Capsicum (peppers) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4071)	Parent
4073 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4073)		NCBI Taxonomy ID	4072 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4072)	NCBI Taxonomy ID
Yes		is Taxon A an Intraspecies?	Yes	is Taxon B an Intraspecies?
C. frutescens BG2816 (a pungent wild pepper)		Taxon A Description	C. annuum Bellpeppers	Taxon B Description

GENOTYPIC CHANGE

csy1		Generic Gene Name	UniProtKB Capsicum annuum
-		Synonyms	Q09UW1 (http://www.uniprot.org/uniprot/Q09UW1)
-		String	GenebankID or UniProtKB DQ349225 (https://www.ncbi.nlm.nih.gov/nuccore/DQ349225)
-		Sequence Similarities	
-		GO - Molecular Function	
-		GO - Biological Process	
-		GO - Cellular Component	
GO:0016021 : integral component of membrane (https://www.ebi.ac.uk/QuickGO/term/GO:0016021)			Presumptive Null

Yes (https://www.gephebase.org/search-criteria?/and+Presumptive+Null=~Yes~#gephebase-summary-title)	Molecular Type
Cis-regulatory (https://www.gephebase.org/search-criteria?/and+Molecular+Type=~Cis-regulatory~#gephebase-summary-title)	Aberration Type
Deletion (https://www.gephebase.org/search-criteria?/and+Aberration+Type=~Deletion~#gephebase-summary-title)	Deletion Size
-	
Large 2.5 kb deletion spanning 1.8 kb of the putative promoter and 0.7 kb of the first exon was observed in the <i>C. annuum</i> Bellpeppers	Molecular Details of the Mutation
Candidate Gene (https://www.gephebase.org/search-criteria?/and+Experimental+Evidence=~Candidate+Gene~#gephebase-summary-title)	Experimental Evidence
Genome sequence of the hot pepper provides insights into the evolution of pungency in <i>Capsicum</i> species. (2014) (https://pubmed.ncbi.nlm.nih.gov/24441736)	Main Reference
Kim S; Park M; Yeom SI; Kim YM; Lee JM; Lee HA; Seo E; Choi J; Cheong K; Kim KT; Jung K; Lee GW; Oh SK; Bae C; Kim SB; Lee HY; Kim SY; Kim MS; Kang BC; Jo YD; Yang HB; Jeong HJ; Kang WH; Kwon JK; Shin C; Lim JY; Park JH; Huh JH; Kim JS; Kim BD; Cohen O; Paran I; Suh MC; Lee SB; Kim YK; Shin Y; Noh SJ; Park J; Seo YS; Kwon SY; Kim HA; Park JM; Kim HJ; Choi SB; Bosland PW; Reeves G; Jo SH; Lee BW; Cho HT; Choi HS; Lee MS; Yu Y; Do Choi Y; Park BS; van Deynze A; Ashrafi H; Hill T; Kim WT; Pai HS; Ahn HK; Yeam I; Giovannoni JJ; Rose JK; S _Å ,rensen I; Lee SJ; Kim RW; Choi IY; Choi BS; Lim JS; Lee YH; Choi D	Authors
Hot pepper (<i>Capsicum annuum</i>), one of the oldest domesticated crops in the Americas, is the most widely grown spice crop in the world. We report whole-genome sequencing and assembly of the hot pepper (Mexican landrace of <i>Capsicum annuum</i> cv. CM334) at 186.6Å— coverage. We also report resequencing of two cultivated peppers and de novo sequencing of the wild species <i>Capsicum chinense</i> . The genome size of the hot pepper was approximately fourfold larger than that of its close relative tomato, and the genome showed an accumulation of Gypsy and Caulimoviridae family elements. Integrative genomic and transcriptomic analyses suggested that change in gene expression and neofunctionalization of capsaicin synthase have shaped capsaicinoid biosynthesis. We found differential molecular patterns of ripening regulators and ethylene synthesis in hot pepper and tomato. The reference genome will serve as a platform for improving the nutritional and medicinal values of <i>Capsicum</i> species.	Abstract
The Pun1 gene for pungency in pepper encodes a putative acyltransferase. (2005) (https://pubmed.ncbi.nlm.nih.gov/15918882)	Additional References

RELATED GEPHE

No matches found.	Related Genes
No matches found.	Related Haplotypes

EXTERNAL LINKS

COMMENTS