

GEPHE SUMMARY

EPSPS (https://www.gephebase.org/search-criteria?/and+Gene Gephebase="EPSPS" #gephebase-summary-title)	Gephebase Gene	GP00001902	GepheID
Published	Entry Status	Courtier	Main curator

PHENOTYPIC CHANGE

Physiology (https://www.gephebase.org/search-criteria?/and+Trait Category="Physiology" #gephebase-summary-title)	Trait Category		
Xenobiotic resistance (herbicides; glyphosate) (<a #gephebase-summary-title"="" (herbicides;="" glyphosate)"="" href="https://www.gephebase.org/search-criteria?/and+Trait=" resistance="" xenobiotic="">https://www.gephebase.org/search-criteria?/and+Trait="Xenobiotic resistance (herbicides; glyphosate)" #gephebase-summary-title)	Trait		
Lolium rigidum - sensitive	Trait State in Taxon A		
Lolium rigidum - resistant	Trait State in Taxon B		
Taxon A	Ancestral State		
Intraspecific (https://www.gephebase.org/search-criteria?/and+Taxonomic Status="Intraspecific" #gephebase-summary-title)	Taxonomic Status		
	Taxon A	Taxon B	
	Latin Name	Latin Name	
Lolium rigidum (<a #gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=" lolium="" rigidum"="">https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms="Lolium rigidum" #gephebase-summary-title)	Lolium rigidum (<a #gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=" lolium="" rigidum"="">https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms="Lolium rigidum" #gephebase-summary-title)	Lolium rigidum (<a #gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=" lolium="" rigidum"="">https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms="Lolium rigidum" #gephebase-summary-title)	
-	Common Name	Common Name	
-	Synonyms	Synonyms	
Lolium rigidum Gaudin; Lolium rigidum	Lolium rigidum Gaudin; Lolium rigidum	Lolium rigidum Gaudin; Lolium rigidum	
species	Rank	Rank	
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliopsida; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Poodae; Poeae; Poeae Chloroplast Group 2 (Poeae type); Loliinae; Lolium	Lineage	Lineage	
Lolium () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 4520)	Parent	Parent	
89674 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 89674)	NCBI Taxonomy ID	NCBI Taxonomy ID	
No	is Taxon A an Intraspecies?	Yes	is Taxon B an Intraspecies?
			Taxon B Description
		a population from South Africa	

GENOTYPIC CHANGE

At2g45300	Generic Gene Name	P05466 (http://www.uniprot.org/uniprot/P05466)	UniProtKB Arabidopsis thaliana
F4L23.19; At2g45300	Synonyms	0	GenebankID or UniProtKB
3702.AT2G45300.1 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier= 3702.AT2G45300.1)	String		
Belongs to the EPSP synthase family.	Sequence Similarities		
GO:0003866 : 3-phosphoshikimate 1-carboxyvinyltransferase activity (https://www.ebi.ac.uk/QuickGO/term/GO:0003866)	GO - Molecular Function		
GO:0009073 : aromatic amino acid family biosynthetic process	GO - Biological Process		

(<https://www.ebi.ac.uk/QuickGO/term/GO:0009073>)

GO:0009423 : chorismate biosynthetic process

(<https://www.ebi.ac.uk/QuickGO/term/GO:0009423>)

GO - Cellular Component

GO:0009507 : chloroplast (<https://www.ebi.ac.uk/QuickGO/term/GO:0009507>)

GO:0009570 : chloroplast stroma (<https://www.ebi.ac.uk/QuickGO/term/GO:0009570>)

Presumptive Null

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

Molecular Type

Coding ([#gpebase-summary-title](https://www.gephebase.org/search-criteria?/and+Molecular+Type+Coding))

Aberration Type

SNP ([#gpebase-summary-title](https://www.gephebase.org/search-criteria?/and+Aberration+Type+SNP))

SNP Coding Change

Nonsynonymous

Molecular Details of the Mutation

Pro106Thr

Experimental Evidence

Candidate Gene ([#gpebase-summary-title](https://www.gephebase.org/search-criteria?/and+Experimental+Evidence+Candidate+Gene))

	Taxon A	Taxon B	Position
Codon	-	-	-
Amino-acid	Pro	Thr	106

Main Reference

Rigid ryegrass (*Lolium rigidum*) populations containing a target site mutation in EPSPS and reduced glyphosate translocation are more resistant to glyphosate . (2012)

(<https://pubmed.ncbi.nlm.nih.gov/00000000.000015>)

Authors

Bostamam Yazid; Malone Jenna M; Dolman Fleur C; Boutsalis Peter; Preston Christopher

Abstract

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Additional References

RELATED GEPHE

Related Genes

No matches found.

Related Haplotypes

3 ([#gpebase-summary-title](https://www.gephebase.org/search-criteria?/or+Gene+Gephebase+EPSPS/and+Taxon+ID+89674/or+Gene+Gephebase+EPSPS/and+Taxon+ID+89674))

EXTERNAL LINKS

COMMENTS