GEPHE SUMMARY

Gephebase Gene
beta-tubulin

GephelD
GP00001829

Entry Status
Published

Main curator
Courtier

PHENOTYPIC CHANGE

Trait Category
Physiology

Trait
Xenobiotic resistance (benzimidazole)

Trait State in Taxon A
sensitive

Trait State in Taxon B
resistant (low resistance)

Ancestral State
Taxon A

Taxonomic Status
Intraspecific

Taxon A

Latin Name
Oculimacula yallundae

Common Name
-

Synonyms
Helgardia herpotrichoides; Mollisia yallundae; Pseudocercosporella herpotrichoides; Ramulispora herpotrichoides; Tapesia yallundae; Oculimacula yallundae (Wallwork & Spooner) Crous & W. Gams, 2003; CBS 110665; CBS H-23003; CBS:110665; CBS:H:23003; Oculimacula yallunda

Rank
species

Lineage
cellular organisms; Eukaryota; Opisthokonta; Fungi; Dikarya; Ascomycota; saccharomyceta; Pezizomycotina; leotiomyceta; sordariomyceta; Leotiomycetes; Helotiales; Ploettnerulaceae; Oculimacula

Parent
Oculimacula () - (Rank: genus)

NCBI Taxonomy ID
86028

is Taxon A an Infraspecies?
No

Taxon B

Latin Name
Oculimacula yallundae

Common Name
-

Synonyms
Helgardia herpotrichoides; Mollisia yallundae; Pseudocercosporella herpotrichoides; Ramulispora herpotrichoides; Tapesia yallundae; Oculimacula yallundae (Wallwork & Spooner) Crous & W. Gams, 2003; CBS 110665; CBS H-23003; CBS:110665; CBS:H:23003; Oculimacula yallunda

Rank
species

Lineage
cellular organisms; Eukaryota; Opisthokonta; Fungi; Dikarya; Ascomycota; saccharomyceta; Pezizomycotina; leotiomyceta; sordariomyceta; Leotiomycetes; Helotiales; Ploettnerulaceae; Oculimacula

Parent
Oculimacula () - (Rank: genus)

NCBI Taxonomy ID
86028

is Taxon B an Infraspecies?
No

GENOTYPIC CHANGE

Generic Gene Name
TUB2

Synonyms
ARM10; SHE8; YFL037W

String
4932.YFL037W

Sequence Similarities
Belongs to the tubulin family.

GO - Molecular Function
GO:0005525 : GTP binding
GO:0003924 : GTPase activity
GO:0005200 : structural constituent of cytoskeleton

GO - Biological Process
GO:0007010 : cytoskeleton organization
GO:0000278 : mitotic cell cycle
GO:0000070 : mitotic sister chromatid segregation
GO:0007017 : microtubule-based process

UniProtKB Saccharomyces cerevisiae (strain ATCC 204508 / S288c)
P02557

GenebankID or UniProtKB

GO:0046677 : response to antibiotic
GO:0000226 : microtubule cytoskeleton organization
GO:0045143 : homologous chromosome segregation
GO:0030473 : nuclear migration along microtubule
GO:0090316 : positive regulation of intracellular protein transport

GO - Cellular Component
GO:0005737 : cytoplasm
GO:0005874 : microtubule
GO:0005816 : spindle pole body
GO:0005881 : cytoplasmic microtubule
GO:0005828 : kinetochore microtubule
GO:0005880 : nuclear microtubule
GO:0045298 : tubulin complex

Presumptive Null
Unknown

Molecular Type
Coding

Aberration Type
SNP

SNP Coding Change
Nonsynonymous

Molecular Details of the Mutation
L240F

Experimental Evidence
Candidate Gene

	Taxon A	Taxon B	Position
Codon	CTC	TTC	-
Amino-acid	Leu	Phe	240

Main Reference
Mutations of the Î²-tubulin gene associated with different phenotypes of benzimidazole resistance in the cereal eyespot fungi Tapesia yallundae and Tapesia acuformis . (1999)

Authors
Albertini Catherine; Gredt Michel; Leroux Pierre

Abstract
-

Additional References
Sensitivity of Neurospora crassa to benzimidazoles and N-phenylcarbamates: effect of amino acid substitutions at position 198 in Î²-tubulin . (1992)

RELATED GEPHE

Related Genes
No matches found.
Related Haplotypes
4

EXTERNAL LINKS

COMMENTS

Mutation also present in a S. cerevisiae resistant line