

Table S1. Y2H screening results**A. Fsr1 N-terminal as bait**

Fv Locus	Gene name (domain)
FVEG_00233.3	Hypothetical protein
FVEG_00403.3	putative cyclophilin peptidyl-prolyl cis-trans isomerase
FVEG_00510.3	Hypothetical protein
FVEG_00562.3	40S ribosomal protein S6-B
FVEG_01143.3	putative alpha keto acid dehydrogenase
FVEG_01304.3	cystathionine gamma-lyase
FVEG_01449.3	conserved hypothetical protein (TF)
FVEG_01920.3	conserved hypothetical protein (Hex1)
FVEG_02319.3	putative mitochondrial carrier protein
FVEG_02948.3	C-1-tetrahydrofolate synthase
FVEG_03125.3	putative glyoxalase
FVEG_04097.3	SCP like extracellular protein
FVEG_05696.3	conserved hypothetical protein
FVEG_06063.3	conserved hypothetical protein
FVEG_07050.3	Heat shock protein HSP98
FVEG_07289.3	Eukaryotic translation initiation factor 5A-2
FVEG_07318.3	putative cystathionine beta-lyase
FVEG_07509.3	conserved hypothetical protein
FVEG_08088.3	putative transcription initiation factor
FVEG_08459.3	putative phospholipase B homolog
FVEG_08486.3	conserved hypothetical protein
FVEG_08639.3	conserved hypothetical protein
FVEG_08746.3	putative phospholipase B homolog
FVEG_08950.3	hypothetical protein
FVEG_09495.3	O-acetylhomoserine
FVEG_09511.3	putative glutamate synthase
FVEG_09578.3	putative choline sulfatase
FVEG_10001.3	conserved hypothetical protein
FVEG_10119.3	putative Antigen1 precursor (no domains)
FVEG_10127.3	conserved hypothetical protein
FVEG_10358.3	putative pyruvate dehydrogenase complex
FVEG_10441.3	putative short-chain dehydrogenase
FVEG_10833.3	hypothetical protein
FVEG_11066.3	putative glutamyl-tRNA synthetase
FVEG_11334.3	peroxisomal membrane anchor protein
FVEG_11642.3	putative 2-oxoglutarate dehydrogenase
FVEG_12134.3	Conserved hypothetical Sel1 repeat protein
FVEG_12379.3	conserved hypothetical protein
FVEG_12398.3	putative mannose-binding lectin
FVEG_12529.3	O-acetylhomoserine
FVEG_12531.3	putative FMN-dependent dehydrogease
FVEG_12848.3	conserved hypothetical protein
FVEG_12878.3	putative carboxypeptidase Y
FVEG_13501.3	conserved hypothetical protein
FVEG_13647.3	conserved hypothetical protein
No Fus homolog	hypothetical protein

No Fus. homolog	Unknown protein
No Fv homolog	hypothetical protein
No Fv homolog	putative NADH dehydrogenase
No Fv homolog	Mitochondria protein of unknown function
No Fv homolog	No known homolog
No Fv homolog	No known homolog
No Fv homolog	putative mitochondria protein

B. Fsr1 N-terminal without coiled coil as bait

Table S2. Additional Description of putative Fsr1-interacting proteins

Fv Locus	Gene Name	Key pfam motif	Proposed function
FVEG_00403	<i>FvCYP1</i>	cyclophilin-like domain (CLD) (PF04126)	Act as a virulence determinant during plant infection in <i>Magnaporthe grisea</i> and <i>Botrytis cinerea</i> (Viaud <i>et al.</i> , 2003); act as modulators of protein function in eukaryotes such as budding yeast cyclophilin Cpr1 (Arevalo-Rodriguez & Heitman, 2005)
FVEG_04097	<i>FvSCP1</i>	sperm-coating protein (SCP)-like extracellular protein (PF00188)	Act as a Ca ²⁺ -chelator in various signaling processes (Cantacessi <i>et al.</i> , 2009)
FVEG_12134	<i>FvSEL1</i>	Sel1-like repeat (SLR) (PF08238)	Involved in signal transduction pathways, involved in the ER-associated protein degradation under cellular stress (Kamauchi <i>et al.</i> , 2005) (Gardner <i>et al.</i> , 2000)
FVEG_01920	<i>FvHEX1</i>	Hex1 (cd04469)	Physiology and functioning of the Woronin body (Curach <i>et al.</i> , 2004), asexual production and pathogenicity in <i>F. graminearum</i> (Son <i>et al.</i> , 2013)
FVEG_11334	<i>FvPEX14</i>	Pex14_N (pfam04695)	Sustain the formation of fruiting bodies and the maturation and germination of sexual spores (Peraza-Reyes & Berteaux-Lecellier, 2013). Important for lipid metabolism (Wanders <i>et al.</i> , 2010) and are implicated in the homeostasis of reactive oxygen species (Fransen <i>et al.</i> , 2012).

References

- Arevalo-Rodriguez, M. and Heitman, J.** (2005) Cyclophilin A is localized to the nucleus and controls meiosis in *Saccharomyces cerevisiae*. *Eukaryot. Cell*, **4**, 17-29.
- Cantacessi, C., Campbell, B. E., Visser, A., Geldhof, P., Nolan, M. J., Nisbet, A. J., et al.** (2009) A portrait of the "SCP/TAPS" proteins of eukaryotes - Developing a framework for fundamental research and biotechnological outcomes. *Biotechnol. Adv.*, **27**, 376-388.
- Curach, N. C., Te'o, V. S. J., Gibbs, M. D., Bergquist, P. L. and Nevalainen, K. M. H.** (2004) Isolation, characterization and expression of the hex1 gene from *Trichoderma reesei*. *Gene*, **331**, 133-140.
- Fransen, M., Nordgren, M., Wang, B. and Apanasets, O.** (2012) Role of peroxisomes in ROS/RNS-metabolism: Implications for human disease. *BBA-Mol. Basis Dis*, **1822**, 1363-1373.

- Gardner, R. G., Swarbrick, G. M., Bays, N. W., Cronin, S. R., Wilhovsky, S., Seelig, L., et al.**
(2000) Endoplasmic reticulum degradation requires lumen to cytosol signaling: Transmembrane control of Hrd1p by Hrd3p. *J. Cell Biol*, **151**, 69-82.
- Kamauchi, S., Nakatani, H., Nakano, C. and Urade, R.** (2005) Gene expression in response to endoplasmic reticulum stress in *Arabidopsis thaliana*. *FEBS J*, **272**, 3461-3476.
- Peraza-Reyes, L. and Berteaux-Lecellier, V.** (2013) Peroxisomes and sexual development in fungi. *Front. Physiol*, **4**.
- Son, M., Lee, K. M., Yu, J., Kang, M., Park, J. M., Kwon, S. J., et al.** (2013) The HEX1 Gene of *Fusarium graminearum* Is Required for Fungal Asexual Reproduction and Pathogenesis and for Efficient Viral RNA Accumulation of *Fusarium graminearum* Virus 1. *J. Virol*, **87**, 10356-10367.
- Viaud, M., Brunet-Simon, A., Brygoo, Y., Pradier, J. M. and Levis, C.** (2003) Cyclophilin A and calcineurin functions investigated by gene inactivation, cyclosporin A inhibition and cDNA arrays approaches in the phytopathogenic fungus *Botrytis cinerea*. *Mol. Microbiol*, **50**, 1451-1465.
- Wanders, R. J. A., Ferdinandusse, S., Brites, P. and Kemp, S.** (2010) Peroxisomes, lipid metabolism and lipotoxicity. *BBA-Mol. Cell. Biol L*, **1801**, 272-280.

Table S3. *F. verticillioides* strains used in this study.

Strain	Source
<i>F. verticillioides</i> 7600	FGSC
Δ Fsr1	Shim et al., 2006
Δ Fvstp1	This study
Δ Fvcyp1	This study
Δ Fvscp1	This study
Δ Fvsel1	This study
Fvstp1c	This study
Fvstp1nc	This study
Fvcyp1c	This study
Fvscp1c	This study
Fvsel1c	This study
Fvcyp1-gfp	This study
Fvscp1-gfp	This study
Fvsel1-gfp	This study
Fsr1-gfp	This study
Fvcyp1-Fsr1-gfp	This study
Fvscp1-Fsr1-gfp	This study
Fvscp1-Fsr1-gfp	This study

Table S4. Primers used in this study. The underlined sequences were for fusion purpose. The recognition site of the restriction enzyme is shaded in select primer sequences.

Primer Name	5'-3' sequence
FsrExon1for	CATCTCTCCAAACCGACTC
FsrExon1revt	CACTGGCATATCCTCCAAGGTAGATCTAAGCTTCTTGTATCTTG
FsrExon2fort	GCAAAGATAACAAGAGAACGTTAGATCTACCTTGGAGGATATGCCAGTG
FsrExon2rev	CTTCGTGGCCAGAAATGATAG
FNcos	GCCGCC <u>ATGGGCC</u> TA ATGCT
FBrev	CAGCCAT <u>GGGATCC</u> GTCCACC
T7seq	TAATACGACTCACTATA <u>AGGGC</u>
jRv	CTCCCAGCCTGAAGCTGAGCCGTCGAGTTCTATCGCGCTCATG
iFw	CATGAGCGCGATA <u>AGGA</u> ACTCGACGGCTCAGCTTCAGGCTCGGGAG
3'BDseq	TTTCGTTTAAA <u>ACCTAAGAGTC</u>
5'BDnfor	CATCATGGAGGAGCAGAAG
3'BDnrev	CATAAATCATAAGAAATT <u>CGCCCGG</u>
5'LD Amplimer	CTATT <u>CGATGATG</u> AAGATA <u>CCCCACCA</u> ACCC
3'LD Amplimer	GTGA <u>ACTTGC</u> GGGGTTTCAGTATCTACGAT
FCC1n LUC-F	<u>AAGCTCGAGTAGTCGAC</u> ATGTCAGCCAATTATTGGCAC
FCC1nLUC-R	<u>CGTACGAGATCTGGTCGAC</u> CTTATCTAAGCCTTGCCT
FCK1cLUC-F	<u>CGTCCC</u> GGGGCGGTACCC <u>CTCCGTC</u> CACATCG
FCK1cLUC-R	<u>TTGGAT</u> CCCCGGGTACCC <u>TATTCTCTGCCT</u> TTGGC
STR1nLUC-F	<u>AAGCTCGAGTAGTCGAC</u> ATGGGCC <u>TAATGCTGGCAA</u>
STR1nLUC-R	<u>CGTACGAGATCTGGTCGAC</u> TCGTGCAAACACCTTGACCAC
STR2cLUC-F	<u>CGTCCC</u> GGGGCGGTACCC <u>CTTCAACAGA</u> TACTTCTAC
STR2cLUC-R	<u>TTGGAT</u> CCCCGGGTACCC <u>TTACAGCT</u> ACCAGAGTCGACA
STR3cLUC-F	<u>CGTCCC</u> GGGGCGGTACCC <u>AGACCC</u> CTCC <u>CTTCAAGCC</u>
STR3cLUC-R	<u>TTGGAT</u> CCCCGGGTACCC <u>TTACAGCT</u> ACCAGAGTCGACA
STR4cLUC-F	<u>CGTCCC</u> GGGGCGGTACCC <u>CTTGT</u> CACCGTCTGTAGTG
STR4cLUC-R	<u>TTGGAT</u> CCCCGGGTACCC <u>TTAGACAGTAAC</u> CGCGCTTCG
STR5cLUC-F	<u>CGTCCC</u> GGGGCGGTACCC <u>GCCAGCT</u> ATCAGCAATATGC
STR5cLUC-R	<u>TTGGAT</u> CCCCGGGTACCC <u>TTACATGAGGAT</u> CTGTCAATGGT
1F	CGTTACCAATT <u>CCCAAGG</u> GCTG
2R	<u>TAGATGCCGACCGGG</u> AACGTTGGGCATGGCATTG
3F	CCACTAGCTCCAGCCAAG <u>GCCTCC</u> ACTGTTACACAAAGG

4R	CAGCTGCACTGGCTATCTAG
5F	AAGAGCGCGAGCGATTTC
6R	GAAATCGCTCGCGCTCTT
7F	GGCAAAAGCAAAAGGACAGAA
8F	TCTACCACAGAGAGCTCTGG
9R	<u>TAGATGCCGACCGGAAACCTCATT</u> TGAGGAAGCTGGAGG
10F	<u>CCACTAGCTCCAGCCAAGGACA</u> AAAGGGATGGGATTGGGA
11R	AGAAGCGACTGAACATGCACG
12F	TACTCAACTGAGAACAGCCA
13R	CACAGAGATGGACTTACCCCT
14F	CCGCTCTCAACTCCGATAGTAG
15R	<u>TAGATGCCGACCGGAAACAAAGGC</u> ATGGCTCTGCTTC
16F	<u>CCACTAGCTCCAGCCAAGGGCACG</u> CTTACATCGATC
17R	TGCCTCGCAAGTATCTCTACC
18F	GGCTTCTTTGTACTCCCTG
19R	AGCACTCCGTCAATAAACAC
20F	AATTGAGAACGCAGGCGAG
21R	<u>TAGATGCCGACCGGAAACGCCAAG</u> CTGTGCATATTGCT
22F	<u>CCACTAGCTCCAGCCAAGGGACT</u> AAACCAAGTGGGACATG
23R	TTGCACTTCCACATGCTGC
24F	GGCTTCTTTGTACTCCCTG
25R	AGCACTCCGTCAATAAACAC
26F	GGAGAACGACCCAGAACAGAGG
27R	CGGGAGCAGAACTCACTACA
HYG-F	CTTGGCTGGAGCTAGTGGAGGTCAA
HY-R	GTATTGACCGATTCTTGCCTCGAA
YG-F	GATGTAGGAGGGCGTGGATATGTCCT
HYG-R	GTTCCCGGTGGCATCTACTCTAT
GFP-R2	<u>GGCACCGGCTCCAGCGCCTGCACCAG</u> CTCCCTGTACAGCTCGTCCATGC
RP27-F	TCT TCG CTA TTA CGC CAG C
RP27-R	TTT GAA GAT TGG GTT CCT ACG
CYP-F	<u>GGA GCT GGT GCA GGC GCT GGA GCC GGT</u> GCC ATG AGA CCC TCC CTC TTC AAG
CYP-R	TTA CAG CTC ACC AGA GTC GAC A
SCP-F	<u>AGG AAC CCA ATC TTC AAA</u> ATG CCT TTT GTC ACC GTC TG

SCP-R	GGCACCGGCTCCAGCGCCTGCACCAGCTCCGAC <u>AGT AAC GCG CTT CTC G</u>
SEL-F	<u>AGG AAC CCA ATC TTC AAA</u> ATG GCT CCC CCA CAG TTA G
SEL-R	GGCACCGGCTCCAGCGCCTGCACCAG <u>CTCCAT GAG GAT CTG TCA ATG</u> <u>GTG TT</u>
FSR1-F	<u>AGG AAC CCA ATC TTC AAA</u> ATG GGC CCT AAT GCT GGC AA
FSR1-R	GCTTGGCGGACCATGGTATTGT
GFP-SF	ACA TGA AGC AGC ACG ACT TC
GFP-SR	GAA GTC GTG CTG CTT CAT GT