Supplementary Data 1. Amyloid regions of Hyr1

```
  1  MKVVSNFIFT ILLTLNLSAA LEVVTSRIDR GGIQGFHGDV KVHSGATWAI
 51  LGTTLCSFFG GLEVEKGASL FIKSDNGPVL ALNVALSTLV RPVINNGVIS
101  LNSKSSTSFS NFDIGGSSFT NNGEIYLASS GLVKSTAYLY AREWTNNGLI
151  VAYQNQKAAG NIAFGTAYQT ITNNGQICLR HQDFVPATKI KGTGCVTADE
201  DTWIKLGNTI LSVEPTHNFY LKDSKSSLIV HAVSSNQTFT VHGFGNGNKL
251  GLTLPLTGNR DHFRFEYYPD TGILQLRAAA LPQYFKIGKG YDSKLFRIVN
301  SRGLKNAVTY DGPVPNNEIP AVCLIPCTNG PSAPESESDL NTPTTSSIET
351  SSYSSAATES SVVSESSSAV DSLTSSSLSS KSESSDVVSS TTNIESSSTA
401  IETTMNSESS TDAGSSSISQ SESSSTAITS SSETSSSESM SASSTTASNT
451  SIETDSGIVS QSESSSNALS STEQSITSSP GQSTIYVNST VTSTITSCDE
501  NKCTEDVVTI FTTVPCSTDC VPTTGDIPMS TSYTQRTVTS TITNCDEVSC
551  SQDVVTYTTN VPHTTVDATT TTTTSTGGDN STGGNESGSN HGSGAGSNEG
601  SQSGPNNGSG SGSEGGSNNG SGSGSDSGSN NGSGSGSNNG SGSGSNNGSG
651  SGSGSTEGSE GGSGSNEGSN HGSNEGSGSG SGSQTGSGSG SNNGSGSGSQ
701  SGSGSGSQSG SESGSNSGSN EGSNPGAGNG SNEGSGQGSG NGSEAGSGQG
751  SGPNNGSGSG HNDGSGSGSN QGSNPGAGSG SGSESGSNAG SHSGSNEGAK
801  TDSIEGFHTE SKPGFNTGAH TDATVTGNSV ANPVTTSTES DTTISVTVSI
851  TSYMTGFDGK PKPFTTVDVI PVPHSMPSNT TDSSSSVPTI DTNENGSSIV
901  TGGKSILFGL IVSMVVLFM
```

Supplementary Data 1. The amino acid sequence of Hyr1 with regions predicted to be amyloidogenic regions by Waltz webserver were underlined (http://waltz.switchlab.org), and predictions by TANGO were bolded (http://tango.crg.es). For both analyses, default parameters were used, and only β-aggregation potentials of at least 97% are illustrated.

Supplementary Data 2. Synthesized *Sc-CaYWP1* Sequence:

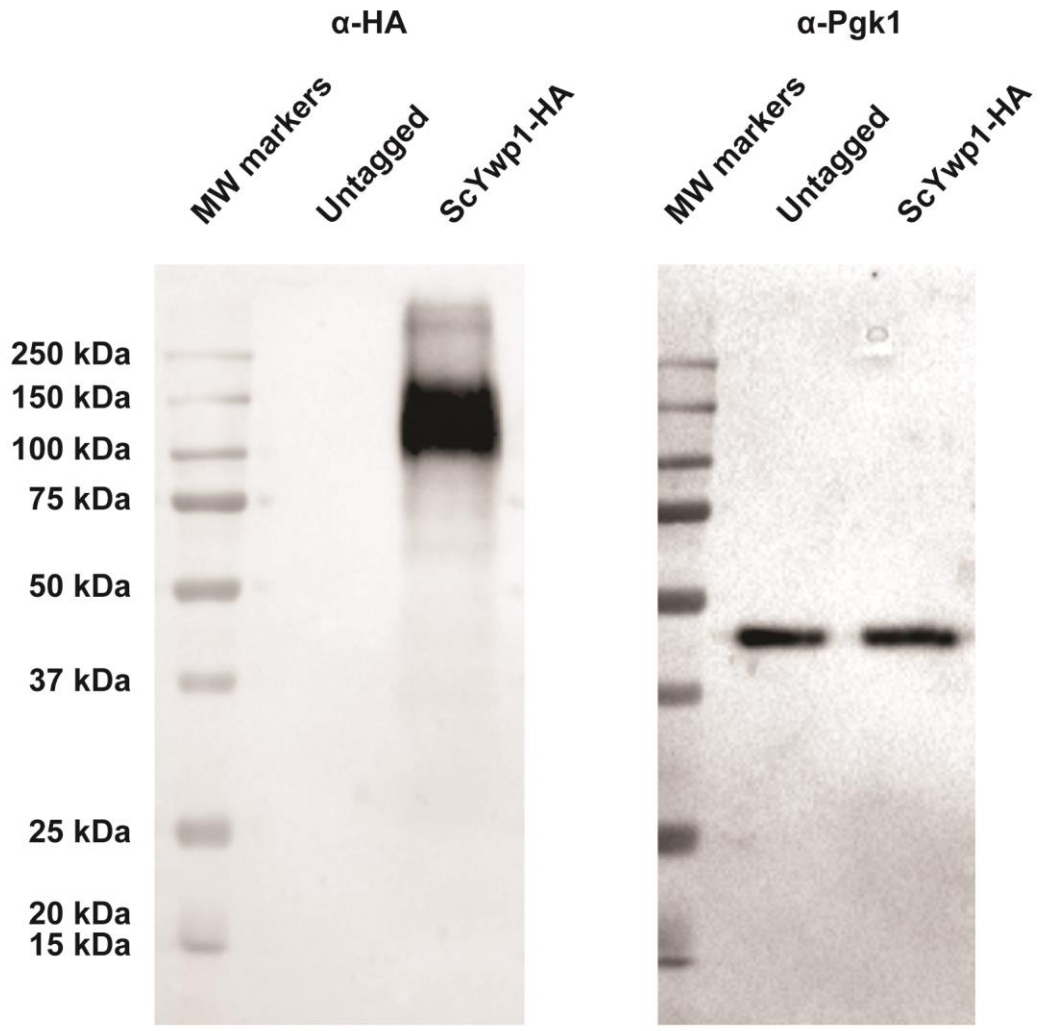
AGCGATCATGTCTAGATGAAGGTTTCCACTATTTTTGCTGCTGCTTCTGCTTTGTTTGCTGCTAC
TACTACTTTGGCTCAAGATGTTGCTTGCTTGGTTGATAATCAACAAGTTGCCGTTGTTGATTTGG
ATACTGGTGTTTGCCCTTTTACTATTCCAGCTTCTTTGGCTGCTTTCTTCACTTTCGTTTCTTTG
GAAGAGTACAACGTCCAATTCTACTACACCATCGTTAACAACGTTAGATACAACACCGATATTAG
AAACCGCGGTAAGGTTATTAACGTTCCAGCTAGAAACTTGTATGGTGCTGGTGCTGTTCCATTTT
TCCAAGTTCATTTGGAAAAGCAGTTGGAAGCTAATTCTACTGCTGCTATTAGACGTAGATTGATG
GGTGAAACTCCAATCGTTAAGAGAGATCAAATCGACGATTTTATTGCCTCGAGTGAAAACACTGA
AGGTACTGCTTTGGAAGGTTCTACATTGGAAGTTGTTGACTATGTTCCAGGTTCTTCTTCTGCTT
CTCCATCTGGTTCAGCTTCACCATCAGGTTCTGAATCTGGTTCTGGTAGTGATTCTGCTACCATT
AGATCTACTACCGTTGTCTCTTCTTCCTCTTGTGAATCTTCTGGTGATTCAGCTGCTACAGCTAC
TGGTGCTAATGGTGAATCTACTGTTACTGAACAAAACACCGTTGTTGTTACCATTACCTCTTGTC
ATAACGATGCTTGTCATGCTACTACAGTTCCAGCAACTGCTTCTATTGGTGTTACTACTGTTCAT
GGTACTGAAACCATTTTCACTACCTACTGTCCATTGTCCTCTTACGAAACTGTTGAATCCACCAA
AGTTATCACTATCACCTCTTGCTCTGAAAACAAGTGTCAAGAAACTACTGTTGAAGCTACTCCAT
CTACTGCTACAACTGTTTCTGAAGGTGTTGTCACTGAATACGTTACTTACTGTCCAGTTTCTTCC
GTTGAAACCGTTGCTTCTACAAAGGTCATTACTGTTGTTGCTTGTGATGAACATAAGTGCCACGA
AACTACAGCTGTTGCTACTCCAACTGAAGTTACAACAGTTGTTGAAGGTTCCACCACTCATTATG
TTACTTATAAGCCAACAGGTTCCGGTCCAACTCAAGGTGAAACTTATGCTACTAATGCCATCACA
AGTGAAGGTACAGTTTACGTTCCAAAGACTACTGCTGTTACTACACATGGTTCTACTTTTGAAAC
TGTCGCCTACATTACAGTTACTAAGGCTACACCAACAAAAGGTGGTGAACAACATCAACCAGGTT
CTCCAGCTGGTGCCGCTACTTCTGCTCCAGGTGCTCCTGCTCCTGGTGCATCTGGTGCTCATGCT
TCAACTGCTAACAAAGTTACCGTTGAAGCTCAAGCTACACCAGGTACTTTGACTCCAGAAAACAC
AGTTGCCGGTGGTGTTAACGGTGAACAAGTAGCTGTTTCTGCTAAGACTACTATTTCTCAAACTA
CCGTCGCTAAAGCTTCAGGTTCAGGTAAAGCTGCTATTTCTACTTTCGAAGGTGCTGCTGCAGCT
TCCGCTGGTGCTTCTGTTTTAGCTTTGGCTTTGATTCCATTGGCCTACTTCATTTGAGTCGACAT
CTTATACGACTA

Amplification Primers for above sequence:

Forward:
5'-AGCGATCATGTCTAGATGAAGGTTTCCACT-3'

Reverse:
5'-TAGTCGTATAAGATGTCGACTCAAATGAAGTAGGCCA-3'

Supplementary Data 2. The *Sc-CaYWP1* gene and amplification primers were custom-synthesized using Invitrogen™ GeneArt™ Strings™ DNA Fragment Service.



Supplementary Figure 1. Heterologous expression of *Sc-CaYWP1* in *S. cerevisiae*.

Immunoblot analysis of untagged (PC7155) and HA-epitope tagged *Sc-Ca*Ywp1 expressed from *TEF2* promoter on a high-copy plasmid (PC7307) in wild-type *S. cerevisiae* (PC538). The HA-*Sc-Ca*Ywp1 protein may run at a higher molecular weight (150 kDa) than its expected size (61 kDa) due to glycosyl modifications. Antibodies to Pgk1 (45 kDa) were used as a control for total protein levels.

Name	Strain	Genotype, Reference
Candida albicans WT	CAI4 + *URA*	*∆ura3::imm434/∆ura3::imm434, RPS1/∆rps1::Clp10-URA3*, [1]
SN250	SN250	*his1∆/his1∆, leu2∆/leu2∆, arg4∆/arg4∆, URA3/ura3∆::imm434, IRO1/iro1∆::imm434,* [2]
∆/∆als1/3	CJN1348	*ura3∆::imm434:: URA3-IRO1 als1::hisG als3::dpl200 ura3∆::imm434 als1::hisG als3::dpl200*, [3]
∆bcr1	SN275	*his1∆/his1∆, leu2∆/leu2∆, arg4∆/arg4∆, URA3/ura3∆::imm434, IRO1/iro1∆::imm434, bcr1∆::C.dubliniensisHIS1/bcr1∆::C.maltosaLEU2*, [2]
∆efg1	TF156-X	*his1∆/his1∆, leu2∆/leu2∆, arg4∆/arg4∆, URA3/ura3∆::imm434, IRO1/iro1∆::imm434, efg1∆::C.dubliniensisHIS1/efg1∆::C.maltosaLEU2*, [4]
∆hog1	SN307	*his1∆/his1∆, leu2∆/leu2∆, arg4∆/arg4∆, URA3/ura3∆::imm434, IRO1/iro1∆::imm434, hog1∆::C.dubliniensisHIS1/hog1∆::C.maltosaLEU2*, [2]
∆hwp2	SN73	*his1∆/his1∆, leu2∆/leu2∆, arg4∆/arg4∆, URA3/ura3∆::imm434, IRO1/iro1∆::imm434, hwp2∆::C.dubliniensisHIS1/hwp2∆::C.maltosaLEU2*, [2]
∆hyr1	SN823	*his1∆/his1∆, leu2∆/leu2∆, arg4∆/arg4∆, URA3/ura3∆::imm434, IRO1/iro1∆::imm434, hyr1∆::C.dubliniensisHIS1/hyr1∆::C.maltosaLEU2*, [2]
∆ihd1	SN917	*his1∆/his1∆, leu2∆/leu2∆, arg4∆/arg4∆, URA3/ura3∆::imm434, IRO1/iro1∆::imm434, ihd1∆::C.dubliniensisHIS1/ihd1∆::C.maltosaLEU2,* [2]
∆sfl1	TF001-X	*his1∆/his1∆, leu2∆/leu2∆, arg4∆/arg4∆, URA3/ura3∆::imm434, IRO1/iro1∆::imm434, sfl1∆::C.dubliniensisHIS1/sfl1∆::C.maltosaLEU2*, [4]
∆ywp1	SN630	*his1∆/his1∆, leu2∆/leu2∆, arg4∆/arg4∆, URA3/ura3∆::imm434, IRO1/iro1∆::imm434, ywp1∆::C.dubliniensisHIS1/ywp1∆::C.maltosaLEU2*, [2]
Saccharomyces cerevisiae WT	PC538	*MAT***a** *ste4 FUS1-lacZ FUS1-HIS3 ura3-52* Σ1278b, [5]
Sc∆flo11	PC1029	*MAT***a** *ste4 FUS1-lacZ FUS1-HIS3 ura3-52*) *flo11*::KanMX6 Σ1278b, [6]
Sc-CaYWP1	PC7155	Σ1278b *MAT***a** *ste4 FUS1-lacZ FUS1-HIS3 ura3-52 -scYWP1*, This paper

Supplementary Table 1. Strains used in the study. All deletion strains for *Candida albicans* were homozygous knockouts. Δ/Δ*als*1/3 is a dual homozygous knockout strain of *ALS1* and *ALS3*.

References for Supplementary Table 1.

1. Fonzi, W. A. & Irwin, M. Y. Isogenic strain construction and gene mapping in *Candida albicans*. *Genetics* **134**, 717–28 (1993).

2. Noble, S. M., French, S., Kohn, L. A., Chen, V. & Johnson, A. D. Systematic screens of a *Candida albicans* homozygous deletion library decouple morphogenetic switching and pathogenicity. *Nat. Genet.* **42**, 590–8 (2010).

3. Nobile, C. J. *et al.* Complementary adhesin function in *C. albicans* biofilm formation. *Curr. Biol.* **18**, 1017–24 (2008).

4. Homann, O. R., Dea, J., Noble, S. M. & Johnson, A. D. A phenotypic profile of the *Candida albicans* regulatory network. *PLoS Genet.* **5**, e1000783 (2009).

5. Cullen, P. J. *et al.* A signaling mucin at the head of the Cdc42- and MAPK-dependent filamentous growth pathway in yeast. *Genes Dev.* **18**, 1695–708 (2004).

6. Karunanithi, S. *et al.* Shedding of the mucin-like flocculin Flo11p reveals a new aspect of fungal adhesion regulation. *Curr. Biol.* **20**, 1389–95 (2010).

Supplementary Movie Legends

Supplementary Movie 1. Adhesion of WT cells under flow at 23°C. This time-lapse darkfield microscopy movie shows the attachment of CAI4 + *URA* cells to the substrate during the attachment phase (time indicated in the upper left hand corner; images acquired every 2 m), followed by the subsequent growth and development during the growth phase (starts at 2h; images acquired every 15 m). Cell-seeded media (1×10^6 cells/ml) was used during the attachment phase, while cell-free media was used during the growth phase. Flow is from the right to left. Scale bar indicates 50 µm.

Supplementary Movie 2. Δ/Δ*als1/3* cells have reduced cell-cell adhesion under flow. This time-lapse darkfield microscopy movie shows the attachment of Δ/Δ*als1/3* cells to the substrate during the attachment phase (time indicated in the upper left hand corner; images acquired every 2 m), followed by the growth phase (starts at 2h; images acquired every 15 m). Cell-seeded media (1×10^6 cells/ml) was used during the attachment phase, while cell-free media was used during the growth phase. Flow is from the right to left. Scale bar indicates 50 µm.

Supplementary Movie 3. Δ*hyr1* cells have reduced adhesion under flow. This time-lapse darkfield microscopy movie shows the attachment of Δ*hyr1* cells to the substrate during the attachment phase (time indicated in the upper left hand corner; images acquired every 2 m), followed by the growth phase (starts at 2h; images acquired every 15 m). Cell-seeded media (1×10^6 cells/ml) was used during the attachment phase, while cell-free media was used during the growth phase. Flow is from the right to left. Scale bar indicates 50 µm.

Supplementary Movie 4. Only a few Δ*hwp2* cells adhere under flow. This time-lapse darkfield microscopy movie shows the attachment of Δ*hwp2* cells to the substrate during the attachment phase (time indicated in the upper left hand corner; images acquired every 2 m), followed by the growth phase (starts at 2h; images acquired every 15 m). Cell-seeded media (1×10^6 cells/ml) was used during the attachment phase, while cell-free media was used during the growth phase. This Movie is also reflective of results obtained for Δ*eap1* and Δ*ihd1* cells. Flow is from the right to left. Scale bar indicates 50 µm.

Supplementary Movie 5. *Δhog1* cells show robust hyperfilamentation and remain strongly adhered over time under flow. This time-lapse darkfield microscopy movie shows the attachment of Δ*hog1* cells to the substrate during the attachment phase (time indicated in the upper left hand corner; images acquired every 2 m), followed by the growth phase (starts at 2h; images acquired every 15 m). Cell-seeded media (1×10^6 cells/ml) was used during the attachment phase, while cell-free media was used during the growth phase. Flow is from the right to left. Scale bar indicates 50 µm.

Supplementary Movie 6. *Δsfl1* cells show robust hyperfilamentation and remain strongly adhered over time under flow. This time-lapse darkfield microscopy movie shows the attachment of Δ*sfl1* cells to the substrate during the attachment phase (time indicated in the upper left hand corner; images acquired every 2 m), followed by the growth phase (starts at 2h; images acquired every 15 m). Cell-seeded media (1×10^6 cells/ml) was used during the attachment phase, while cell-free media was used during the growth phase. Flow is from the right to left. Scale bar indicates 50 µm.

Supplementary Movie 7. *Δefg1* cells fail to remain adhered over time under flow. This time-lapse darkfield microscopy movie shows the attachment of Δ*efg1* cells to the substrate during the attachment phase (time indicated in the upper left hand corner; images acquired every 2 m), followed by the growth phase (starts at 2h; images acquired every 15 m). Cell-seeded media (1×10^6 cells/ml) was used during the attachment phase, while cell-free media was used during the growth phase. Flow is from the right to left. Scale bar indicates 50 µm.

Supplementary Movie 8. *Δbcr1* cells fail to remain adhered over time under flow. This time-lapse darkfield microscopy movie shows the attachment of Δ*bcr1* cells to the substrate during the attachment phase (time indicated in the upper left hand corner; images acquired every 2 m), followed by the growth phase (starts at 2h; images acquired every 15 m). Cell-seeded media (1×10^6 cells/ml) was used during the attachment phase, while cell-free media was used during the growth phase. Flow is from the right to left. Scale bar indicates 50 µm.

Supplementary Movie 9. WT cells treated with rapamycin (20 nM) have increased adhesion maintenance over time. This time-lapse darkfield microscopy movie shows the attachment of WT cells to the substrate during the attachment phase (time indicated in the upper left hand corner; images acquired every 2 m), followed by the growth phase (starts at 2h; images acquired every 15 m). Cell-seeded media (1×10^6 cells/ml) with 20 nM rapamycin was used during the attachment phase, while cell-free media with 20 nM rapamycin was used during the growth phase. Flow is from the right to left. Scale bar indicates 50 µm.

Supplementary Movie 10. *Δywp1* cells fail to remain adhered over time. This time-lapse darkfield microscopy movie shows the attachment of *Δywp1* cells to the substrate during the attachment phase (time indicated in the upper left hand corner; images acquired every 2 m), followed by the growth phase (starts at 2h; images acquired every 15 m). Cell-seeded media (1×10^6 cells/ml) was used during the attachment phase, while cell-free media was used during the growth phase. Flow is from the right to left. Scale bar indicates 50 µm.