

1 Table S1. *Cryptococcus neoformans* (Cn) strains used in this study

Cn strains	Genotype	Strain Characteristics	References
H99	Wild type	Cn var. <i>grubii</i> , wild-type strain, highly virulent in mice	[1]
AI100-dsRed	P_histoneH3-DsRed-SKL-T_hH3-NEO	H99 with an ectopic integration of DsRed.	[2]
AI132-GFP	P_histoneH3-HEM15-GFP-NAT	H99 with an ectopic integration of GFP tagged after the <i>HEM15</i> protein.	[2]
Cap59	Cap59::HYG	Mutant in H99 background, avirulent, no capsule	[3,4]
XX44	Scs7::NEO	Mutant in H99 background, deletion of the gene encoding the sphingolipid alpha-hydroxylase. Virulence in animals not tested, but likely dramatically reduced as the mutant displays defective growth in 5% CO ₂ .	Xie X and Lin X, unpublished data
HMC1	lac1::HYG	Mutant in H99 background, modestly reduced in virulence, defective in melanin production	[5,6,7]
MCD16	lac1 mutant	Mutant in H99 background, modestly reduced in virulence, defective in melanin production	[5,6,7]
AI81	bwc1::NAT	Mutant in H99 background, modestly reduced in virulence, required for light sensing.	[8]
XL1601	Znf2::NEO	Mutant in H99 background, modestly enhanced in virulence. Cells are locked in yeast phase and cannot undergo dimorphic switch to hyphal growth during mating	[9]
87C	Wild type	Cn var. <i>grubii</i>	[10]
UA491	Wild type	Cn var. <i>neoformans</i>	[11]
UA4223	Wild type	Cn var. <i>neoformans</i>	[11]
UM2	Wild type	Hybrid of Cn var. <i>grubii</i> and Cn var. <i>neoformans</i> (A/D strains)	[10]

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1 **References**

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3 1. Perfect JR, Lang SD, Durack DT (1980) Chronic cryptococcal meningitis: a new experimental model in rabbits. *Am J Pathol* 101: 177-194.

4 2. Idnurm A, Giles SS, Perfect JR, Heitman J (2007) Peroxisome function regulates growth on glucose in the basidiomycete fungus *Cryptococcus*
5 *neoformans*. *Eukaryot Cell* 6: 60-72.

6 3. Geunes-Boyer S, Oliver TN, Janbon G, Lodge JK, Heitman J, et al. (2009) Surfactant protein D increases phagocytosis of hypocapsular
7 *Cryptococcus neoformans* by murine macrophages and enhances fungal survival. *Infect Immun* 77: 2783-2794.

8 4. Nelson RT, Pryor BA, Lodge JK (2003) Sequence length required for homologous recombination in *Cryptococcus neoformans*. *Fungal Genet*
9 *Biol* 38: 1-9.

10 5. Pukkila-Worley R, Gerrald QD, Kraus PR, Boily MJ, Davis MJ, et al. (2005) Transcriptional network of multiple capsule and melanin genes
11 governed by the *Cryptococcus neoformans* cyclic AMP cascade. *Eukaryot Cell* 4: 190-201.

12 6. Zhu X, Williamson PR (2004) Role of laccase in the biology and virulence of *Cryptococcus neoformans*. *FEMS Yeast Res* 5: 1-10.

13 7. Salas SD, Bennett JE, Kwon-Chung KJ, Perfect JR, Williamson PR (1996) Effect of the laccase gene CNLAC1, on virulence of *Cryptococcus*
14 *neoformans*. *J Exp Med* 184: 377-386.

15 8. Idnurm A, Heitman J (2005) Light controls growth and development via a conserved pathway in the fungal kingdom. *PLoS Biol* 3: e95.

16 9. Lin X, Jackson JC, Feretzaki M, Xue C, Heitman J (2010) Transcription factors Mat2 and Znf2 operate cellular circuits orchestrating opposite-
17 and same-sex mating in *Cryptococcus neoformans*. *PLoS Genet* 6: e1000953.

18 10. Chaturvedi V, Fan J, Stein B, Behr MJ, Samsonoff WA, et al. (2002) Molecular genetic analyses of mating pheromones reveal intervariety
19 mating or hybridization in *Cryptococcus neoformans*. *Infect Immun* 70: 5225-5235.

20 11. Barchiesi F, Cogliati M, Esposito MC, Spreghini E, Schimizzi AM, et al. (2005) Comparative analysis of pathogenicity of *Cryptococcus*
21 *neoformans* serotypes A, D and AD in murine cryptococcosis. *J Infect* 51: 10-16.

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