

***Cryptococcus neoformans* wild type strains for the FGSC**

Alexander Idnurm, 11 August 2008

On the suggestion of Joe Heitman, I am providing five wild type strains of *C. neoformans*.

Here is some background information:

Strains JEC20 and JEC21 are isogenic, ie. identical except for their mating type. They were created at NIH in the lab of June Kwon-Chung, and the reference is (Kwon-Chung *et al.*, 1992), although here they were initially called B-4476 and B-4500. JEC21 was sequenced by TIGR, and this sequenced published (Loftus *et al.*, 2005). Both strains and their derivatives were used as the main strains for molecular biology studies for many years. For the genome paper, Stanford sequenced a very similar isolate to JEC21 (known as B-3501), but I do not have this strain.

JEC20 and JEC21 are also at the ATCC (#96909 and 96910, respectively).

JEC20 and JEC21 are serotype D, which is less common in clinical settings. Strain H99 has been the main strain used for studies in serotype A, the most clinically prevalent serotype. It was isolated by John Perfect, from memory of Valentine's Day in the late 1970s sometime: reference (Perfect *et al.*, 1980). I include one version of H99. It may be the same as the one already in the stock center, but I am not sure. One issue with the strain (and all fungal strains) is the effect of passaging over time. The Perfect, Heitman, Lodge and Madhani labs all use H99 strains that differ in their behavior. This one, Heitman lab glycerol #1 is less virulent than others. However, it is the one sequenced by the Broad Institute. James Fraser gave me an aliquot of the 50 ml culture from which he made the DNA for sequencing. There is also an H99 strain in the ATCC, although no one orders it as far as I am aware (ATCC 208821). They say at ATCC it is from NY, but it came from a patient at Duke, NC.

The H99 genome paper is well overdue for publication.

KN99a and KN99 α are isogenic, and were created by backcrossing the MATa allele into the H99 background at Duke (not glycerol #1, however). Both strains are equally virulent, and more so than H99 glycerol 1. They were reported by Kirsten Nielsen (Nielsen *et al.*, 2003). I am assuming that the "KN99" isolate provided by Jenny Lodge in the FGSC is KN99a. I can test the mating type of the isolate if you would like confirmation.