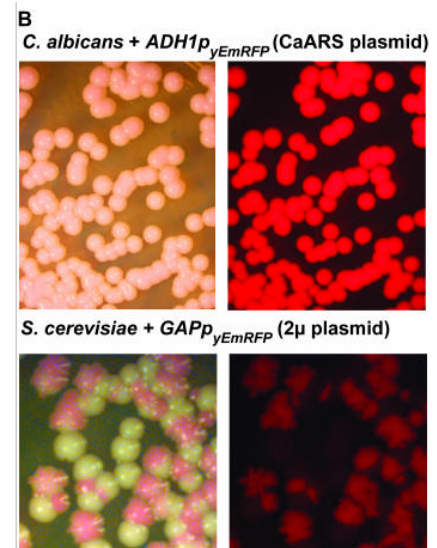


# Novel Purple Fluorescent Biomarker

Dominant marker for rapidly screening plasmid maintenance using a visual or fluorescence assay in both *Saccharomyces cerevisiae* and *Candida albicans*

## Background

*S. Cerevisiae* and *C.albicans* yeast have been widely used as research tool that facilitates the scientific exploration of many biological mechanisms, such as replication and metabolism. The unique characteristics of yeast organisms and plasmid borne color markers enable the examination of a variety of physiological properties providing an invaluable tool for researchers worldwide. However, molecular studies in *C. albicans*, a human fungal pathogen, have been hampered by the lack of plasmids that can autonomously replicate in this organism.



Sabine Keppler-Ross. 2008

## Technology

Dr. Neta Dean, Professor in the Department of Biochemistry and Cell Biology has developed a yeast-codon optimized gene encoding the red fluorescent protein variant, mCherry ( $\gamma$ EmRFP), that confers both a unique bright purple color and fluorescence to both *C. albicans* and *S. cerevisiae*. The  $\gamma$ EmRFP plasmid-born biomarker allows for RFP expression in *C. albicans*, whose non-canonical genetic code has previously precluded expression of all forms of RFP. This  $\gamma$ EmRFP can be used as a fluorescent protein tag for *in vivo* analysis of *Candida* proteins, or simply as a cell marker to monitor the fate of input pathogenic fungal cells within host tissue during an infection.

### Patent number/Publications:

- US Utility: 8,921,045
- Sabine Keppler-Ross. et al. *Genetics*. 2008 May;179 (1):705-10.

### Advantages

- Easily visual/fluorescence identification
- Applicable to any strain background without the need for chromosomal engineering

### Applications

- Research Tool: Genetic Screening, Yeast Biology, Fluorescent Marker

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