

Evolutionary diversity of stress responses in yeast

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OBJECTIVES

To understand the molecular mechanisms that allow cells to respond, adapt, and survive in adverse environmental conditions, using *Saccharomyces cerevisiae* as a model. Specifically:

- Characterization of the natural diversity of stress adaptation
- Understanding the genetic and molecular basis of the observed natural diversity.

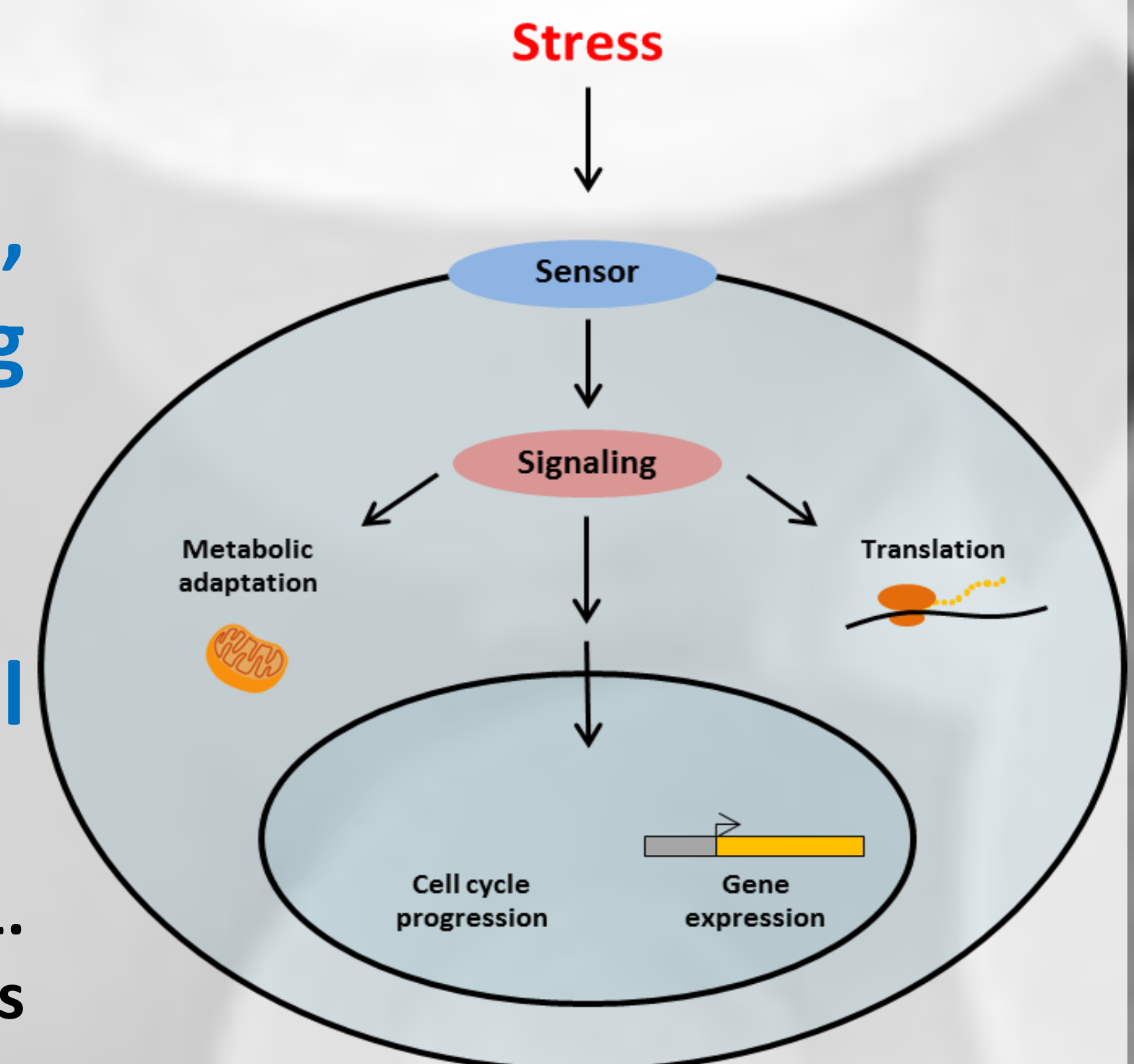


Figure 1.

Scheme of cell responses to a general stress

EXPERIMENTAL APPROACH

1. Selection of yeast strains from different ecological niches

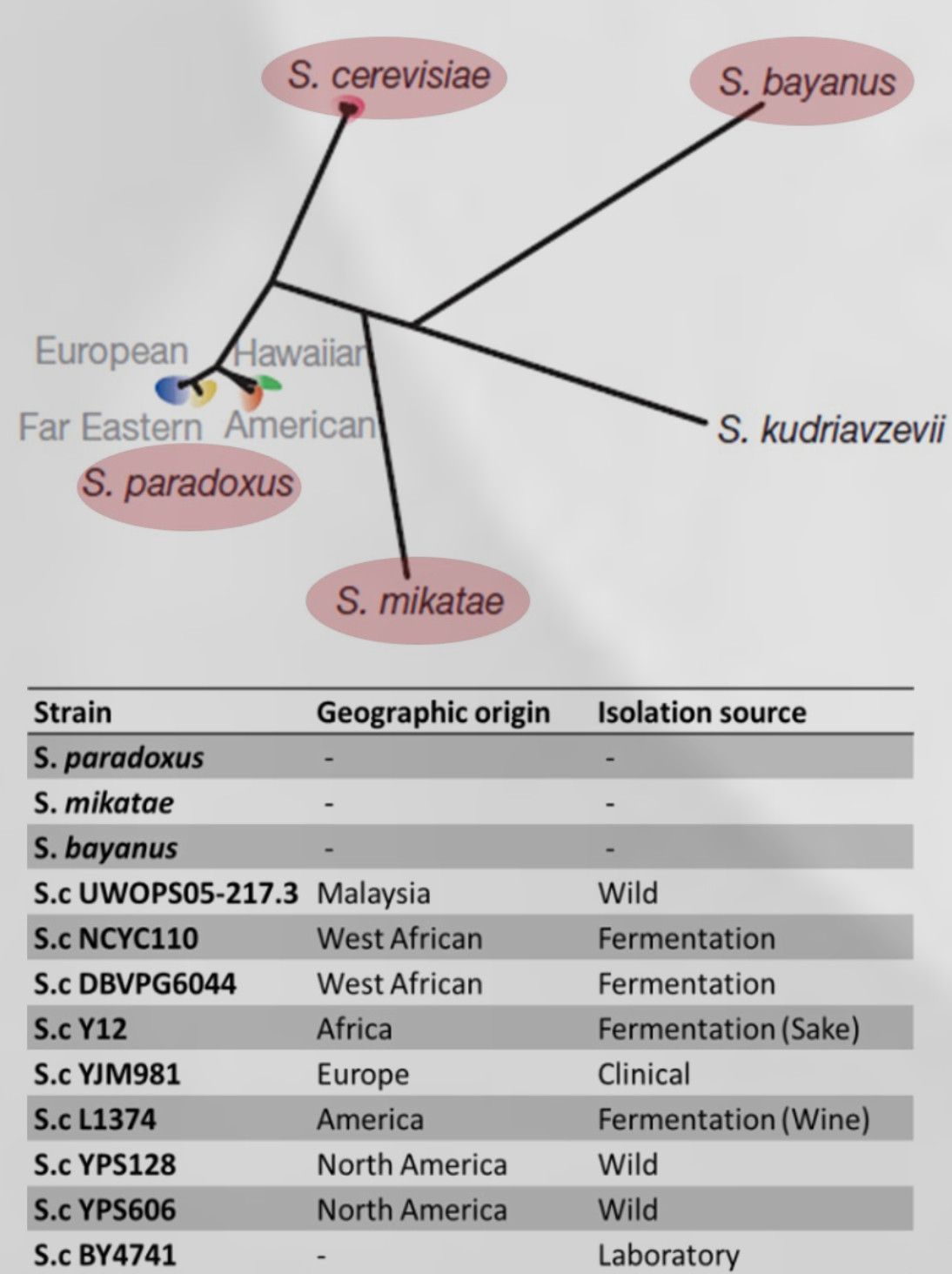


Figure 2. Natural diversity of *Saccharomyces*

2. Identification of divergent stress behaviours

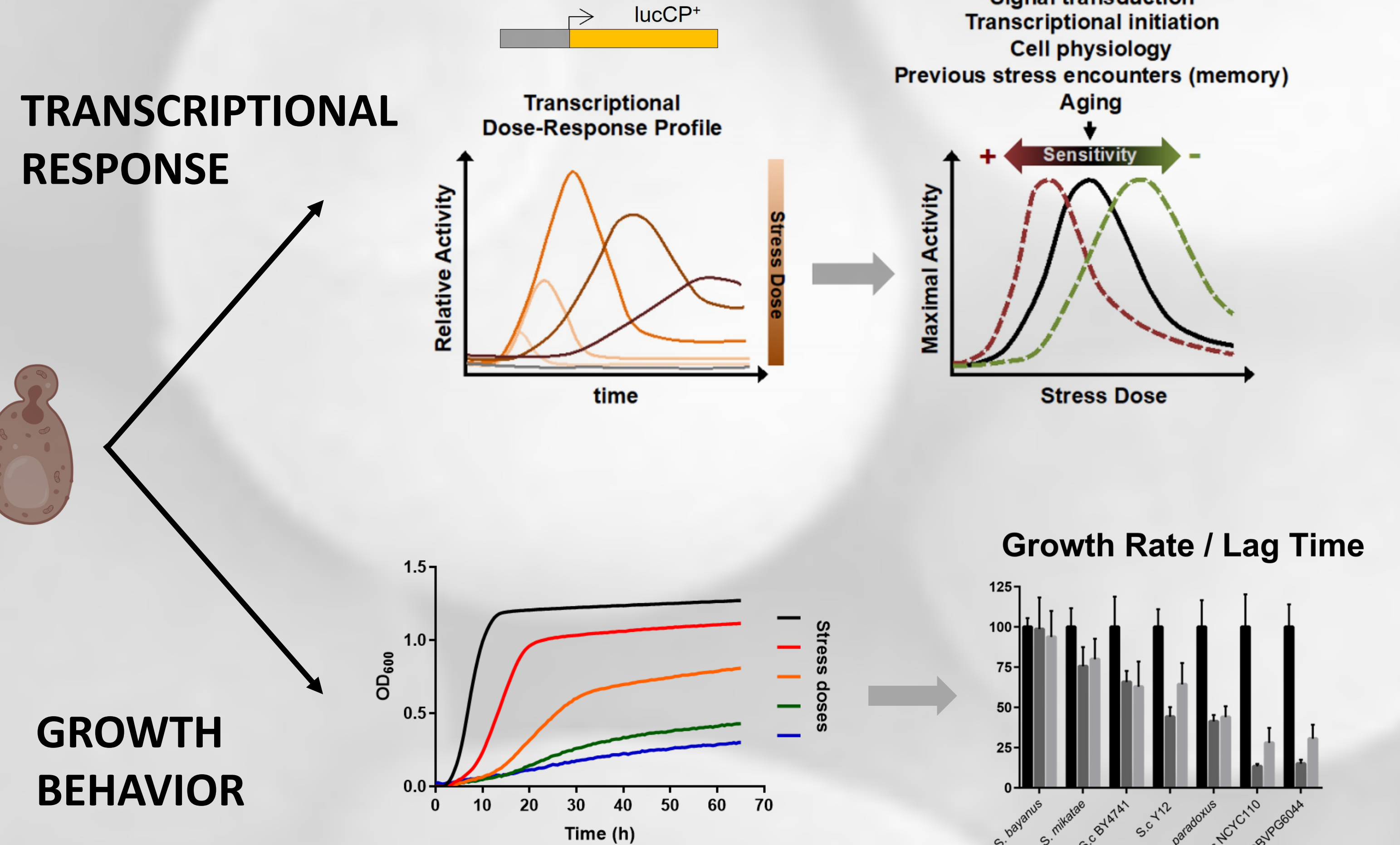


Figure 3. Experimental methodology

3. Identification of the molecular basis of stress adaptation

SEQUENCE ANALYSIS OF GENES INVOLVED IN STRESS RESPONSE



RESULTS

The Galactose Regulatory Network

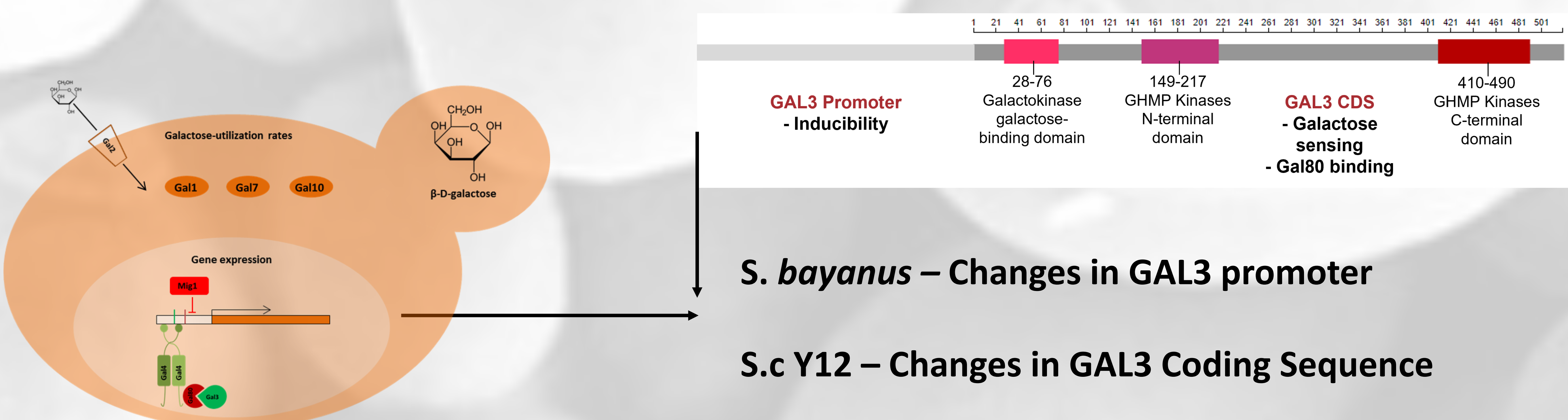


Figure 4. Scheme of the Galactose Regulatory Network in *S. cerevisiae* and results found in this study