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Yeast growth assays and quantification

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Method Article

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Abstract

Introduction

Growth of yeast cells on solid media to test for functionality of endogenous or heterologous ammonium transporters.

Procedure

1) Transform and select yeast on solid YNB \(minimal yeast medium without nitrogen) medium supplemented with 3% glucose and 1 mM arginine. For selection, grow cells in liquid YNB medium supplemented with 3% glucose and 1 mM arginine for one day, dilute 10, 100, 1000 and 10000 in water and drop 5 µL of cells on solid YNB medium containing 50 mM Tris/MES buffered at pH 5.2, 3% glucose and 0.2, 0.4 or 2 mM ammonium chloride or, as a control, 1 mM arginine. 2) Incubate cells 3-6 days at 28ºC and document results by scanning the plates at 600dpi in grey scale. 3) Quantify yeast growth using ImageQuant TL software \(v2003, Amersham). Subtract the average pixel-intensity of each 1000 dilution spots from the agar-intensity-background and normalize with intensity of controls.