

# Biosorption of Nickel by Yeasts in an Osmotically Unsuitable Environment

Emilia Breierová<sup>a,\*</sup>, Milan Čertík<sup>b</sup>, Annamaria Kovárová<sup>a</sup>, and Tomáš Gregor<sup>c</sup>

<sup>a</sup> Institute of Chemistry, SAS, Dúbravská cesta 9, 845 38 Bratislava, Slovak Republic.  
Fax: +421-2-5941 0222. E-mail: Emilia.Breierova@savba.sk

<sup>b</sup> Department of Biochemical Technology, Faculty of Chemical and Food Technology, SUT, Radlinského 9, 812 37 Bratislava, Slovak Republic

<sup>c</sup> Mendel University of Agriculture and Forestry, Zemědělská 1, 613 00 Brno, Czech Republic

\* Author for correspondence and reprint requests

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The tolerance, sorption of nickel(II) ions, and changes in the production and composition of exopolymers of eight yeast strains grown under nickel presence with/without NaCl were studied. Strains of *Pichia anomala* and *Candida maltosa* known as the most resistant yeasts against nickel tolerated up to 3 mM Ni<sup>2+</sup>. NaCl addition decreased both the resistance of the yeast strains toward nickel ions and the sorption of metal ions into cells. All yeasts absorbed nickel predominantly into exopolymers (glycoproteins) and on the surface of cells. However, while the amount of polysaccharide moieties of exoglycoproteins of most of the resistant yeasts was induced by stress conditions, the ratio polysaccharide/protein in the exopolymers remained unchanged in the sensitive species *Cystofilobasidium*. The exopolymer composition might play a key role in yeast adaptation to stress conditions caused by heavy metal ions.

*Key words:* Salt Stress, Nickel Stress, Exopolymers, Yeasts