Use of high-gradient magnetic fishing for reducing proteolysis during fermentation. - DTU Orbit (11/11/2019)

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Proteolysis during fermentation may have a severe impact on the yield and quality of a secreted product. In the current study, we demonstrate the use of high-gradient magnetic fishing (HGMF) as an efficient alternative to the more conventional methods of preventing proteolytic degradation. Bacitracin-linked magnetic affinity adsorbents were employed directly in a fermenter during Bacillus licheniformis cultivation to remove trace amounts of unwanted proteases. The constructed magnetic adsorbents had excellent, highly specific binding characteristics in the fermentation broth (K(d) = 1.94 micromolar; Q(max) = 222.8 mg/g), which obeyed the Langmuir isotherm and had rapid binding kinetics (equilibrium in

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