



Application of immobilized bovine enterokinase in repetitive fusion protein cleavage for the production of MUC1

Tina Kubitzki, Daniel Minör, Ursula Mackfeld, Marco Oldiges, Thomas Noll,
Stephan Lütz

► To cite this version:

Tina Kubitzki, Daniel Minör, Ursula Mackfeld, Marco Oldiges, Thomas Noll, et al.. Application of immobilized bovine enterokinase in repetitive fusion protein cleavage for the production of MUC1. Biotechnology Journal, 2009, 4 (11), pp.1610. 10.1002/biot.200900049 . hal-00508906

HAL Id: hal-00508906

<https://hal.science/hal-00508906>

Submitted on 7 Aug 2010

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

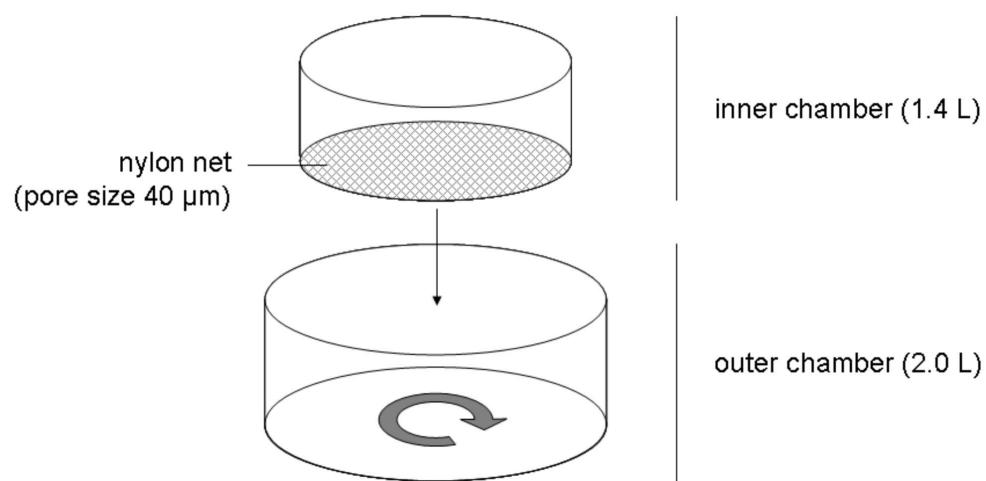
L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Application of immobilized bovine enterokinase in repetitive fusion protein cleavage for the production of MUC1

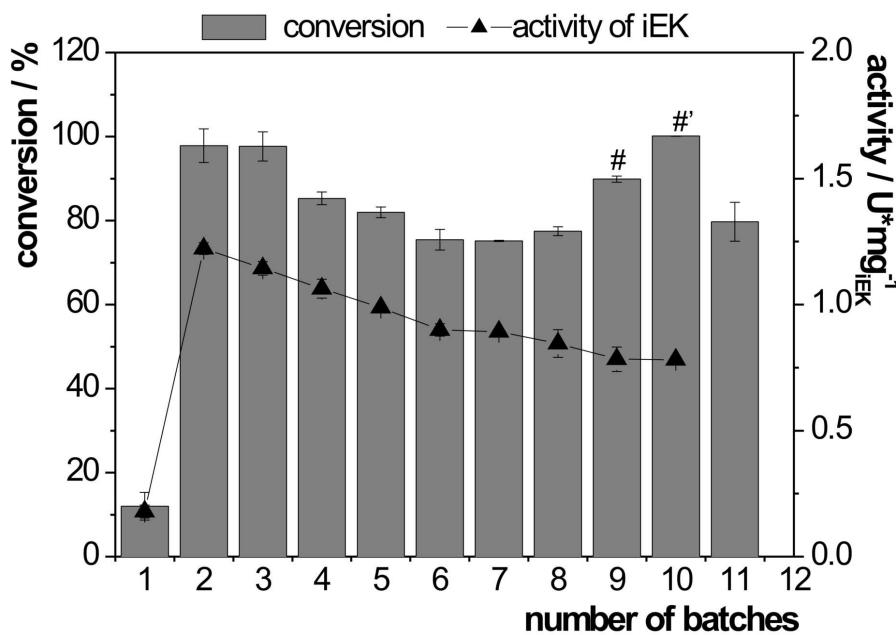
Journal:	<i>Biotechnology Journal</i>
Manuscript ID:	biot.200900049.R2
Wiley - Manuscript type:	Research Article
Date Submitted by the Author:	02-Jul-2009
Complete List of Authors:	Kubitzki, Tina; Forschungszentrum Jülich, Institut für Biotechnologie 2 Minör, Daniel; Forschungszentrum Jülich, Institut für Biotechnologie 2 Mackfeld, Ursula; Forschungszentrum Jülich, Institut für Biotechnologie 2 Oldiges, Marco; Forschungszentrum Jülich, Institut für Biotechnologie 2 Noll, Thomas; Universität Bielefeld, Technische Fakultät Lütz, Stephan; Forschungszentrum Jülich, Institut für Biotechnologie 2; Novartis, GDC/PSB/BIR
Keywords:	enterokinase, immobilization, fusion protein cleavage, protein purification, MUC1



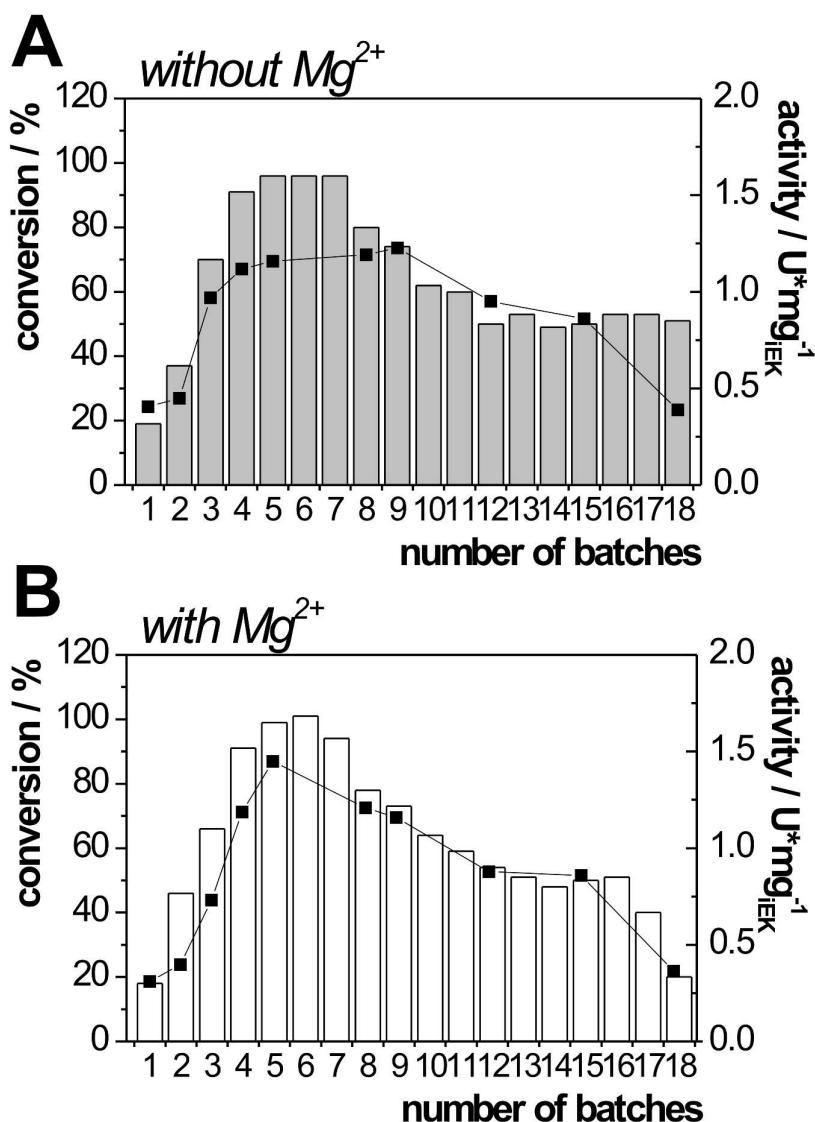


Scheme of the batch binding chamber used for enterokinase purification with metal chelate affinity chromatography.
169x83mm (600 x 600 DPI)

Peer Review



Application of immobilized enterokinase in repetitive fusion protein cleavage. The reaction solution was removed after 24 h (increased process time of 27 h (#) and 33 h (#')) and new substrate solution was added to the enzyme-support preparation starting a new cleavage reaction. The set reaction conditions involved 1.16 mg*mL⁻¹ MUC1-IgG2a Fc in 50 mM Tris-HCl, pH 8.0 incubated with 10 U*gcarrier-1 (determined with GD4K-2NA) immobilized enterokinase in a reaction volume of 1 mL at 25°C under shaking conditions.
87x63mm (600 x 600 DPI)



Repeated fusion protein cleavage by immobilized enterokinase in the absence and presence of magnesium. The reaction solution was removed after 24 h and new substrate solution was added to the enzyme-support preparation starting a new cleavage reaction. The set reaction conditions involved 0.625 mg*mL⁻¹ MUC1-IgG2a Fc in 50 mM Tris-HCl, pH 8.0 incubated with 10 U*mL⁻¹*gcarrier-1 (determined with GD4K-2NA) immobilized enterokinase in a reaction volume of 1 mL at 25°C under shaking conditions. The reaction buffer was supplemented with 1 mM magnesium ions.

A) Repetitive batches in the absence of magnesium; B) Repetitive batches in the presence of magnesium.

125x168mm (600 x 600 DPI)