

Accepted Manuscript

Title: Full-length human CCBE1 production and purification:
leveraging bioprocess development for high quality
glycosylation attributes and functionality

Authors: Marta M. Silva, Patrícia Gomes-Alves, Sara Rosa,
Daniel Simão, José M. Inácio, Cristina Peixoto, Margarida
Serra, José A. Belo, Paula M. Alves



PII: S0168-1656(18)30614-X
DOI: <https://doi.org/10.1016/j.jbiotec.2018.08.015>
Reference: BIOTEC 8265

To appear in: *Journal of Biotechnology*

Received date: 15-5-2018
Revised date: 21-8-2018
Accepted date: 26-8-2018

Please cite this article as: Silva MM, Gomes-Alves P, Rosa S, Simão D, Inácio JM, Peixoto C, Serra M, Belo JA, Alves PM, Full-length human CCBE1 production and purification: leveraging bioprocess development for high quality glycosylation attributes and functionality, *Journal of Biotechnology* (2018), <https://doi.org/10.1016/j.jbiotec.2018.08.015>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Full-length human CCBE1 production and purification: leveraging bioprocess development for high quality glycosylation attributes and functionality

Marta M. Silva^{1,2,3}, Patrícia Gomes-Alves^{1,2}, Sara Rosa^{1,2}, Daniel Simão^{1,2}, José M. Inácio³, Cristina Peixoto^{1,2}, Margarida Serra^{1,2}, José A. Belo³, Paula M. Alves^{1,2}

¹iBET, Instituto de Biologia Experimental e Tecnológica, Oeiras, Portugal;

²ITQB NOVA, Instituto de Tecnologia Química e Biológica António Xavier, Universidade Nova de Lisboa, Oeiras, Portugal;

³Stem Cells and Development Laboratory, CEDOC, NOVA Medical School, Lisboa, Portugal.

Correspondence: Paula M. Alves, Ph.D., iBET, Apartado 12, 2780-901 Oeiras, Portugal; Instituto de Tecnologia Química e Biológica António Xavier, Universidade Nova de Lisboa, Av. Da República, 2780-157 Oeiras, Portugal. **E-mail:** marques@ibet.pt

Highlights

- High volumetric productivity of full-length CCBE1 in high-cell density transfected (HDT) cultures
- CCBE1 glycosylation profile affected by the expression culture system
- Higher CCBE1 recovery yields using a single affinity chromatography column
- MS-based tools confirmed the identity of CCBE1 peptides in the purified product
- Enriched CCBE1 promoted angiogenesis in HUVECs

Abstract

Collagen and calcium-binding EGF domain-1 (CCBE1) is a secreted protein critical for lymphatic/cardiac vascular development and regeneration. However, the low efficient production of the recombinant full-length CCBE1 (rCCBE1) has been a setback for functional studies and therapeutic applications using this protein.

Download English Version:

<https://daneshyari.com/en/article/8953252>

Download Persian Version:

<https://daneshyari.com/article/8953252>

[Daneshyari.com](https://daneshyari.com)