

## Accepted Manuscript

Title: A new insect cell glycoengineering approach provides baculovirus-inducible glycogene expression and increases human-type glycosylation efficiency

Author: Ann M. Toth Chu-Wei Kuo Kay-Hooi Khoo Donald L. Jarvis



PII: S0168-1656(14)00185-0  
DOI: <http://dx.doi.org/doi:10.1016/j.jbiotec.2014.04.011>  
Reference: BIOTEC 6667

To appear in: *Journal of Biotechnology*

Received date: 27-1-2014  
Revised date: 26-3-2014  
Accepted date: 14-4-2014

Please cite this article as: Toth, A.M., Kuo, C.-W., Khoo, K.-H., Jarvis, D.L., A new insect cell glycoengineering approach provides baculovirus-inducible glycogene expression and increases human-type glycosylation efficiency, *Journal of Biotechnology* (2014), <http://dx.doi.org/10.1016/j.jbiotec.2014.04.011>

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.

1  
2 **A new insect cell glycoengineering approach provides baculovirus-**  
3 **inducible glycogene expression and increases human-type**  
4 **glycosylation efficiency**  
5

6 Ann M. Toth<sup>2</sup>, Chu-Wei Kuo<sup>3</sup>, Kay-Hooi Khoo<sup>3</sup>, Donald L. Jarvis<sup>1,2</sup>

7 <sup>1</sup>To whom correspondence should be addressed: Tel: 1-307-766-4284; Fax: 1-307-766-  
8 5098; email: dljarvis@uwyo.edu

9 <sup>2</sup>Department of Molecular Biology, University of Wyoming, Laramie WY 82071, USA

10 <sup>3</sup>Institute of Biological Chemistry, Academia Sinica, Nankang, Taipei 115, Taiwan  
11

12 *Keywords:*

13 baculovirus expression vector system; glycoengineering; baculovirus promoters; insect cell  
14 glycosylation  
15

16 *Abbreviations:*

17 *39K*, baculovirus delayed early gene encoding phosphoprotein of 39 kDa in apparent  
18 molecular weight; AmBic, ammonium bicarbonate buffer; BCA, bicinchoninic acid;  
19 B4GALT1,  $\beta$ 1,4-galactosyltransferase I; BEVS, baculovirus expression vector system;  
20 CMAS, CMP-sialic acid synthetase; CSAT, CMP-sialic acid transporter; E1-ecto, 8X-  
21 histidine tagged form of the ectodomain of Western equine encephalitis virus E1  
22 glycoprotein; GNPE, *N*-acetyl-D-glucosamine-6-phosphate 2'-epimerase; hEPO, human  
23 erythropoietin; hEPO-His, 6X-histidine tagged form of human erythropoietin; hpi, hours  
24 post-infection; *ie1*, immediate early gene 1; MAL, *Maackia amurensis* lectin; MALDI-  
25 TOF MS, matrix-assisted laser desorption/ionization-time of flight mass spectrometry;  
26 MGAT1,  $\beta$ 1,2-glucosaminyltransferase I; MGAT2,  $\beta$ 1,2-glucosaminyltransferase II;  
27 RCA, *Ricinus communis* agglutinin; RT-PCR, reverse transcriptase-polymerase chain  
28 reaction; SAS, sialic acid-9-phosphate synthase; SEAP, secreted alkaline phosphatase;  
29 SNA, *Sambucus nigra* agglutinin; ST3GAL3,  $\alpha$ 2,3-sialyltransferase III; ST6GAL1,  
30  $\alpha$ 2,6-sialyltransferase I; PNGase F, peptide-*N*-glycosidase F; TBA, thiobarbituric acid;  
31 TBS, Tris-buffered saline.  
32  
33  
34

Download English Version:

<https://daneshyari.com/en/article/6491534>

Download Persian Version:

<https://daneshyari.com/article/6491534>

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