



NIH AIDS Reagent Program

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DATA SHEET

Reagent:	MGAT1- CHO cells (CHO.K1.MGAT1-Prot-)
Catalog Number:	13574
Lot Number:	200306
Release Category:	D
Provided:	600 μ L of cells Post thaw cell count = 5×10^6 cells/vial Post thaw cell viability = 91%
Cell Type:	Chinese hamster ovary cell line derived from CHO-S cells.
Propagation Medium:	CD OptiCHO Medium; 8mM Glutamax
Freeze Medium:	Gibco Recovery™ Cell Culture Freezing Medium
Morphology:	Adherent epithelial-like cell line
Sterility:	Negative for mycoplasma, bacteria, and fungi
Description:	Variant of CHO.K1.UCSC Cells (cat# 13589) where the MGAT1- gene has been inactivated by CRISPR/Cas9.
Special Characteristics:	This cell line limits N-linked glycosylation to primarily Mannose-5 as well as some earlier precursors in the N-linked glycosylation pathway. MGAT1- CHO cells (CHO.K1.MGAT1-Prot-) are useful for transient transfections and stable cell line development, and is potentially suitable for GMP production.

ALL RECIPIENTS OF THIS MATERIAL MUST COMPLY WITH ALL APPLICABLE BIOLOGICAL, CHEMICAL, AND/OR RADIOCHEMICAL SAFETY STANDARDS INCLUDING SPECIAL PRACTICES, EQUIPMENT, FACILITIES, AND REGULATIONS. NOT FOR USE IN HUMANS.

Recommended Storage: Keep the reagent in liquid nitrogen.

Contributor: Dr. Phillip Berman

References:

Byrne, G., O'Rourke, S. M., Alexander, D. L., Yu, B., Doran, R. C., Wright, M., Chen, Q., Azadi, P. and Berman, P. W. (2018). CRISPR/Cas9 gene editing for the creation of an MGAT1-deficient CHO cell line to control HIV-1 vaccine glycosylation. *PLoS Biol*, (8), e2005817. doi:10.1371/journal.pbio.2005817 [PUBMED](#)

O'Rourke, S. M., Byrne, G., Tatsuno, G., Wright, M., Yu, B., Mesa, K. A., Doran, R. C., Alexander, D. and Berman, P. W. (2018). Robotic selection for the rapid development of stable CHO cell lines for HIV vaccine production. *PLoS ONE*, (8), e0197656. doi:10.1371/journal.pone.0197656 [PUBMED](#)

O'Rourke, S. M., Yu, B., Morales, J. F., Didinger, C. M., Alexander, D. L., Vollmers, C. and Berman, P. W. (2019). Production of a recombinant monoclonal antibody to Herpes Simplex Virus glycoprotein D for immunoaffinity purification of tagged proteins. *J Immunol Methods*, 31-38. doi:10.1016/j.jim.2018.11.015 [PUBMED](#)

Doran, R. C., Yu, B., Wright, M., O'Rourke, S. M., Yin, L., Richardson, J. M., Byrne, G., Mesa, K. A. and Berman, P. W. (2018). Development of a Stable MGAT1(-) CHO Cell Line to Produce Clade C gp120 With Improved Binding to Broadly Neutralizing Antibodies. *Front Immunol*, 2313. doi:10.3389/fimmu.2018.02313 [PUBMED](#)

Li, S. W., Yu, B., Byrne, G., Wright, M., O'Rourke, S., Mesa, K. and Berman, P. W. (2019). Identification and CRISPR/Cas9 Inactivation of the C1s Protease Responsible for Proteolysis of Recombinant Proteins Produced in CHO Cells. *Biotechnol Bioeng*, (9), 2130-2145. doi:10.1002/bit.27016 [PUBMED](#)

NOTE: Acknowledgment for publications should read "The following reagent was obtained through the NIH AIDS Reagent Program, Division of AIDS, NIAID, NIH: MGAT1- CHO cells (CHO.K1.MGAT1-Prot-) from Dr. Phillip Berman (cat# 13574)." Also include the references cited above in any publications.

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