



## NIH AIDS Reagent Program

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### DATA SHEET

<b>Reagent:</b>	Protease- CHO Cells (CHO.K1.Prot-)
<b>Catalog Number:</b>	13575
<b>Lot Number:</b>	200275
<b>Release Category:</b>	D
<b>Provided:</b>	600 µL of cells Post thaw cell count = $2.99 \times 10^6$ cells/mL Post thaw cell viability = 90%
<b>Cell Type:</b>	Chinese hamster ovary cell line derived from CHO-K1 cells (ATCC)
<b>Propagation Medium:</b>	CD OptiCHO Medium; 8mM Glutamax
<b>Freeze Medium:</b>	Gibco Recovery™ Cell Culture Freezing Medium
<b>Morphology:</b>	Adherent epithelial-like Cell Line
<b>Sterility:</b>	Negative for mycoplasma, bacteria, and fungi
<b>Description:</b>	Protease deficient CHO.K1 cell line.
<b>Special Characteristics:</b>	Variant of CHO Cells (CHO.K1.UCSC) cat# 13589 where the protease gene has been inactivated by CRISPR/Cas9. This cell line minimizes proteolysis of clade B HIV-1 envelope proteins commonly observed in the production of monomeric gp120 and gp140 as well as gp140 trimers. It can be useful for transient transfections and stable cell line development.

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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: Protease- CHO Cells (CHO.K1.Prot-) from Dr. Phillip Berman (cat# 13575)." Also include the references cited above in any publications.

**Last Updated** November 04, 2020

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