

# Product Datasheet

## Retroviral Expression System

### NBP2-29499

Unit Size: 1 Kit

Storage is content dependent.

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**NBP2-29499**

## Retroviral Expression System

Product Information	
<b>Unit Size</b>	1 Kit
<b>Concentration</b>	Please see the protocols for proper use of this product. If no protocol is available, contact technical services for assistance.
<b>Storage</b>	Storage is content dependent.
Product Description	
<b>Species</b>	Mammal
<b>Reactivity Notes</b>	Human and mouse reactivity reported in scientific literature (PMID: 24312621)
<b>Kit Components</b>	pCLXSN Expression Vector (0.5 mg/ml) 20 ul, pCLNCX Expression Vector (0.5 mg/ml) 20 ul, pCLNRX Expression Vector (0.5 mg/ml) 20 ul, pCLNDX Expression Vector (0.5 mg/ml) 20 ul, pCL-Eco Packaging Vector (0.5 mg/ml) 20 ul, pCL-Ampho Packaging Vector (0.5 mg/ml) 20 ul, pCL-10A1 Packaging Vector (0.5 mg/ml) 20 ul, pCLMFG-LacZ Retrovirus Reporter Vector (0.5 mg/ml) 20 ul, Retromax Transfection Buffer (2x) 10 ml, 2.0 M CaCl <sub>2</sub> 2 ml
<b>Notes</b>	Additional Materials Required: 293 Cells may be ordered from ATCC G418 Cell culture reagents: DMEM, Fetal bovine serum, penicillin-streptomycin Trypsin-EDTA Phosphate buffered saline Cloning cylinders (for picking up stably transfected colonies) Polybrene for retroviral infection. Please note that the sequence information for these plasmids is not available.
Product Application Details	
<b>Applications</b>	Retroviral Production
<b>Recommended Dilutions</b>	Retroviral Production
<b>Application Notes</b>	Retrovirus particles are fragile. They are easily inactivated by 0.1% detergent, chloroform, phenol, 1% bleach, 70% ethanol, at 65°C for 30 min, pH <6.5 or >9.0, UV light, and autoclaving. Simple high-speed centrifugation (100,000g x 90 min) produces enough hydrodynamic shear to strip many virions of their gp70, and thus infectivity (although reverse transcriptase activity is preserved). When filter sterilizing retrovirus, be sure to use non-detergent treated 0.22 or 0.45 µm filters. Any trace of detergent will strip virus envelope and reduce your titers. Filter before freezing, and not after in order to avoid losses due to aggregation. All murine retrovirus vectors produced in either mouse cells (like the NIH 3T3-based packaging cell lines) or primate cells (COS and 293) are rapidly inactivated by human serum complement, with kill kinetics of 2-3 logs in 5 min at 37°C. Human C1q initiates the cascade by binding p15 <sup>ETM</sup> at the virion surface. This is an antibody-independent process. Murine retroviruses are heat labile. They have an infectious half-life of only 6 h in culture medium at 4°C. Use in retroviral production reported in scientific literature (PMID: 24312621)

## Publications

Tamaru T, Hattori M, Honda K et al. CRY Drives Cyclic CK2-Mediated BMAL1 Phosphorylation to Control the Mammalian Circadian Clock. *PLoS Biol.* 2015-11-01 [PMID: 26562092] (RetVir, Mouse)

Tamaru T, Hattori M, Ninomiya Y et al. ROS Stress Resets Circadian Clocks to Coordinate Pro-Survival Signals. *PLoS One* 2013-12-02 [PMID: 24312621] (Ret Vir, Human, Mouse)

Xiong Y, Miyamoto N, Shibata K et al. Short-chain fatty acids stimulate leptin production in adipocytes through the G protein-coupled receptor GPR41. *Proc Natl Acad Sci U S A.* 2004-01-27 [PMID: 14722361] (Mouse)

Silverman MA, Shoag J, Wu J et al. Disruption of SLP-76 interaction with Gads inhibits dynamic clustering of SLP-76 and FcepsilonRI signaling in mast cells. *Mol Cell Biol.* 2006-03-01 [PMID: 16479002] (Mouse)

He KL, Ting AT. A20 inhibits tumor necrosis factor (TNF) alpha-induced apoptosis by disrupting recruitment of TRADD and RIP to the TNF receptor 1 complex in Jurkat T cells. *Mol Cell Biol.* 2002-09-01 [PMID: 12167698] (Human)

Narala SR, Allsopp RC, Wells TB et al. SIRT1 acts as a nutrient-sensitive growth suppressor and its loss is associated with increased AMPK and telomerase activity. *Mol Biol Cell.* 2008-03-01 [PMID: 18184747] (Human)

### Details:

Packaging plasmids were transfected into 293T cells.

Hirayama J, Kaneko M, Cardone L et al. Analysis of circadian rhythms in zebrafish. *Methods Enzymol.* 2005-01-01 [PMID: 15817288] (Zebrafish)

Gao P, Zhou XY, Yashiro-Ohtani Y et al. The unique target specificity of a nonpeptide chemokine receptor antagonist: selective blockade of two Th1 chemokine receptors CCR5 and CXCR3. *J Leukoc Biol.* 2003-02-01 [PMID: 12554804] (Mouse)

Cvijic ME, Xiao G, Sun SC. Study of T-cell signaling by somatic cell mutagenesis and complementation cloning. *J Immunol Methods.* 2003-07-01 [PMID: 12957416] (Human)

### Details:

pCL-Ampho Packaging Vector (10046P) which is also a component of the RetroMax System (10040K): Fig 2 (293 cells were used as the packaging cell line). Note: A VSV-G Vector, encoding the G glycoprotein of the vesicular stomatitis virus under the control of the CMV immediate-early promoter was used in conjunction with pCL-Ampho to help increase infection efficiency (see pages 297-298 and Fig 2 for details).

Flamant S, Kortulewski T, Dugray A et al. Osteopontin is upregulated by BCR-ABL. *Biochem Biophys Res Commun.* 2005-08-12 [PMID: 15993098]

Ronnov-Jessen L, Villadsen R, Edwards JC et al. Differential expression of a chloride intracellular channel gene, CLIC4, in transforming growth factor-beta1-mediated conversion of fibroblasts to myofibroblasts. *Am J Pathol.* 2002-08-01 [PMID: 12163372] (Mouse)





### **Novus Biologicals USA**

10730 E. Briarwood Avenue  
Centennial, CO 80112  
USA  
Phone: 303.730.1950  
Toll Free: 1.888.506.6887  
Fax: 303.730.1966  
nb-customerservice@bio-techne.com

### **Bio-Techne Canada**

21 Canmotor Ave  
Toronto, ON M8Z 4E6  
Canada  
Phone: 905.827.6400  
Toll Free: 855.668.8722  
Fax: 905.827.6402  
canada.inquires@bio-techne.com

### **Bio-Techne Ltd**

19 Barton Lane  
Abingdon Science Park  
Abingdon, OX14 3NB, United Kingdom  
Phone: (44) (0) 1235 529449  
Free Phone: 0800 37 34 15  
Fax: (44) (0) 1235 533420  
info.EMEA@bio-techne.com

### **General Contact Information**

www.novusbio.com  
Technical Support: nb-technical@bio-  
techne.com  
Orders: nb-customerservice@bio-techne.com  
General: novus@novusbio.com

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