Product Information

Product identifier	**PRCISR™ CRISPR Pergamon single-targeting human genome-wide CRISPRko library**
Product Number	LGW103
Registration number (Reach)	N/A (product is not subject to registration and is not classified as dangerous under REACH)
Description	Lentiviral CRISPRko single-targeting sgRNA library, 1 sgRNA per gene per construct, 2 constructs per gene. This product is delivered as DNA suspended in 10 mM Tris-Cl, pH 8.5. The CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) technology has revolutionized biological research. Initially discovered as a bacterial defense system (1), it rapidly became adapted to function in mammalian cells to cut almost any region in a genome (2,3). The functional riboprotein complex consists of a Cas nuclease and a single chimeric RNA molecule (sgRNA) that provides target-sequence specificity. Both components can be packed into lentiviral transfer vehicles to transduce almost any cell type and facilitate targeted genome editing. 3Cs sgRNA reagents and libraries are made based on publicly available protocols (4,5)
Amount	120 µg
Species	Human
Target genes	20,256 genes 2 unique sgRNAs per gene
Size	40,493 sgRNAs
Controls	Non-targeting (10) LacZ (10) Luciferase (10) eGFP (10) Safe harbor: AAVS1 (10) DNA-damaged induced apoptosis: SuperCutter (4)
Vector	Backbone: pViv005 sgRNA promoter(s): h7SK Cas Protein: none Fluorescence: none Selection antibiotics: puromycin

Product Information

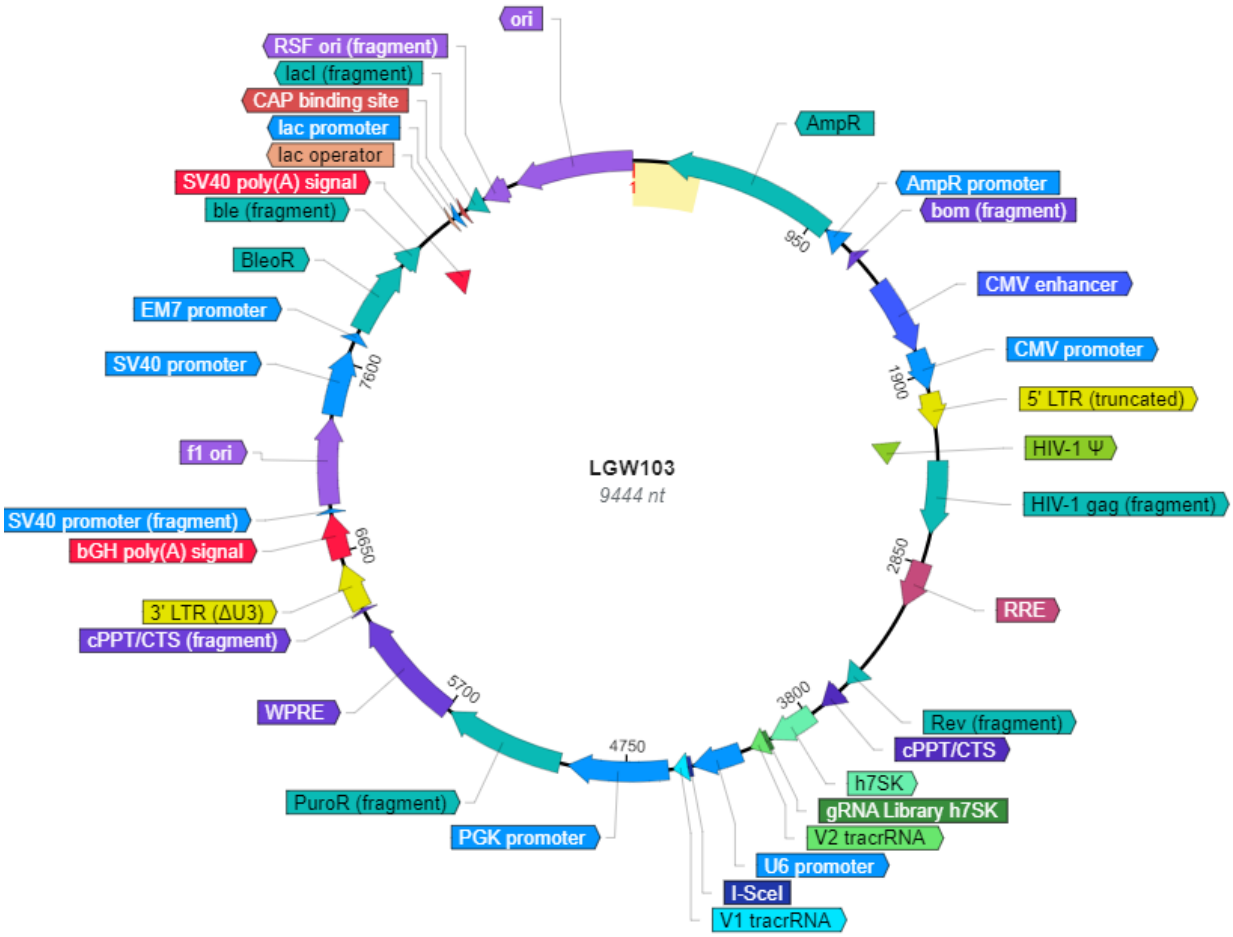
Virus production

Before starting any lentiviral work, please ensure compliance with your Environmental Health and Safety office and government/ organization. Vivlion libraries are compatible with 2nd or 3rd generation lentiviral packaging plasmids.

Storage

After receiving PRCISR™ CRISPR reagents, immediately store at -20°C. Avoid freeze/thaw cycles.

Plasmid Map



This plasmid map was created with VectorBee.

Restricted use

PRCISR™ CRISPR sgRNA reagents and libraries are for R&D use only and not intended for human or animal diagnostic or therapeutic use, or other uses. Although the lentiviral transduction particles produced are replication-incompetent, they should still be handled under Biosafety Level 2 (BSL-2) conditions in the laboratory. Follow all published BSL-2 guidelines for laboratory handling and waste decontamination.

It is not permitted to amplify 3Cs-generated libraries.

This product is subject to third-party licenses and is sold under limited license conditions. The client agrees to use the purchased products solely for their own research purposes and shall neither resell them nor otherwise transfer them to any third party. Vivlion grants a non-exclusive, nontransferable, non-sublicensable license to the third-party licenses underlying the product of Broad Institute Inc., 415 Main Street, Cambridge, MA 02142, USA and ERS Genomics Limited, 88 Harcourt Street, Dublin 2, Ireland, but cannot exclude that relevant third-party rights still exist.

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Recycling

Vivlion offers to take back and recycle any packaging waste from products.

References

(1) Doudna JA, Charpentier E. Genome editing. The new frontier of genome engineering with CRISPR-Cas9. Science 2014; 346 (6213): 1258096. doi:10.1126/science.1258096.

(2) Shalem O, Sanjana NE, Hartenian E, Shi X, Scott DA, Mikkelson T, Heckl D, Ebert BL, Root DE, Doench JG, Zhang F. Genome-scale CRISPR-Cas9 knockout screening in human cells. Science 2014; 343 (6166): 84-87. doi: 10.1126/science.1247005.

(3) Koike-Yusa H, Li Y, Tan EP, Velasco-Herrera Mdel C, Yusa K. Genome-wide recessive genetic screening in mammalian cells with a lentiviral CRISPR-guide RNA library. Nat Biotechnol 2014; 32(3): 267-73. doi: 10.1038/nbt.2800.

(4) Wegner M, Diehl V, Bittl V, de Bruyn R, Wiechmann S, Matthess Y, Hebel M, Hayes MG, Schaubeck S, Benner C, Heinz S, Bremm A, Dikic I, Ernst A, Kaulich M. Circular synthesized CRISPR/Cas sgRNAs for functional interrogations in the coding and noncoding genome. Elife 2019; 8:e42549. doi: 10.7554/eLife.42549.

(5) Wegner M, Husnjak K, Kaulich M. Unbiased and Tailored CRISPR/Cas sgRNA Libraries by SynthesizingCovalently-closed-circular (3Cs) DNA. Bio Protoc 2020; 10(1): e3472. doi: 10.21769/BioProtoc.3472

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