horizon

Publications with Dharmacon™ Edit-R™ CRISPR-Cas9 reagents

These publications demonstrate the application of CRISPR-Cas9 genome engineering techniques for target gene knockout or precise knockin using Dharmacon™ Edit-R™ CRISPR-Cas9 reagents or custom RNA synthesis.

2018

1. A. Cluse, I. Nikolic, *et al.* A Comprehensive Protocol Resource for Performing Pooled shRNA and CRISPR Screens. *Methods Mol Biol.* **1725**, 201-227 (2018). doi: 10.1007/978-1-4939-7568-6_17
2. K. S. Kim, N. Maio, *et al.* Cytosolic HSC20 integrates de novo iron-sulfur cluster biogenesis with the CIAO1-mediated transfer to recipients. *Hum Mol Genet.* Jan 3 (2018). doi: 10.1093/hmg/ddy004

2017

3. M. Basila, M. L. Kelley, ***et al.*** Minimal 2'-O-methyl phosphorothioate linkage modification pattern of synthetic guide RNAs for increased stability and efficient CRISPR-Cas9 gene editing avoiding cellular toxicity. *PLoS One.* **12**, e0188593 (2017). doi: 10.1371/journal.pone.0188593
4. C. E. Delaney, A. T. Chen, *et al.* A histone H4 lysine 20 methyltransferase couples environmental cues to sensory neuron control of developmental plasticity. *Development*. **144**, 1273-1282 (2017). doi: 10.1242/dev.145722
5. S. S. Gang, M. L. Castelletto, *et al.* Targeted mutagenesis in a human-parasitic nematode. *PLoS Pathog.* **13**, e1006675 (2017). doi:10.1371/ journal.ppat.1006675
6. N. Maio, K. S. Kim, *et al.* A Single Adaptable Cochaperone-Scaffold Complex Delivers Nascent Iron-Sulfur Clusters to Mammalian Respiratory Chain Complexes I-III. *Cell Metab.* **25**, 945-953, e6 (2017). doi: 10.1016/j.cmet.2017.03.010
7. L. J. Rupp, K. Schumann, *et al.* CRISPR/Cas9-mediated PD-1 disruption enhances anti-tumor efficacy of human chimeric antigen receptor T cells. *Sci Rep.* **7**, 737 (2017). doi:10.1038/s41598-017-00462-8
8. Ž. Strezoska, M. Perkett, *et al.* High-content analysis screening for cell cycle regulators using arrayed synthetic crRNA libraries. *J. Biotechnol.* **251**, 189-200 (2017). doi: 10.1016/j.jbiotec.2017.04.017
9. X. M. van Wijk, S. Döhrmann, *et al.* Whole-Genome Sequencing of Invasion-Resistant Cells Identifies Laminin α2 as a Host Factor for Bacterial Invasion. *MBio*. **8**, e02128-16 (2017). doi: 10.1128/mBio.02128-16

2016

1. T. A. Aguilera, M. Rafat, *et al.* Reprogramming the immunological microenvironment through radiation and targeting Axl. *Nat Commun.* **7**, 13898 (2016). doi: 10.1038/ncomms13898
2. K. He, E. Chou, *et al.* Conjugation and evaluation of triazole-linked single guide RNA for CRISPR-Cas9 gene editing. *ChemBioChem.* **17**, 1809–1812 (2016). doi:10.1002/cbic.201600320
3. R. Eggenschwiler, M. Moslem, *et al.* Improved bi-allelic modification of a transcriptionally silent locus in patient-derived iPSC by Cas9 nickase. *Sci Rep.* **6**, 38198 (2016). doi: 10.1038/srep38198
4. J. F. Hultquist, K. Schumann, *et al.* A Cas9 Ribonucleoprotein Platform for Functional Genetic Studies of HIV-Host Interactions in Primary Human T Cells. *Cell Reports* **17**, 1438–1452 (2016). doi:/10.1016/j.celrep.2016.09.080
5. M. L. Kelley, Ž. Strezoska, *et al.* Versatility of chemically synthesized guide RNAs for CRISPR-Cas9 genome editing. *J. Biotechnol.* 233, 74–83 (2016). doi:10.1016/j.jbiotec.2016.06.011
6. J. McCaffrey, J. Sibert, *et al.* CRISPR-CAS9 D10A nickase target-specific fluorescent labeling of double strand DNA for whole genome mapping and structural variation analysis. *Nucleic Acids Res*. **44**, e11 (2016). doi:10.1093/nar/gkv878
7. V. Müller, F. Rajer, *et al.* Direct identification of antibiotic resistance genes on single plasmid molecules using CRISPR/Cas9 in combination with optical DNA mapping. *Sci Rep.* **6**, 37938 (2016). doi: 10.1038/srep37938
8. A. Paix, H. Schmidt, *et al.* Cas9-assisted recombineering in C. elegans: genome editing using in vivo assembly of linear DNAs. *Nucleic Acids Res*. **44**, e128 (2016). doi:10.1093/nar/gkw502
9. J. Tan, S. E. Martin. Validation of Synthetic CRISPR Reagents as a Tool for Arrayed Functional Genomic Screening. *PLoS One* **11**, e0168968 (2016). doi: 10.1371/journal.pone.0168968

2015

1. E. M. Anderson, A. Haupt, *et al.* Systematic analysis of CRISPR-Cas9 mismatch tolerance reveals low levels of off-target activity. *J. Biotechnol.* **211**, 56-65 (2015). doi:10.1016/j.jbiotec.2015.06.427
2. R. Barrangou, A. Birmingham, *et al.* Advances in CRISPR-Cas9 genome engineering: lessons learned from RNA interference. *Nucleic Acids Res.* **43**, 3407–3419 (2015). doi:10.1093/nar/gkv226
3. H. Ogiwara, M. Sasaki, *et al.* Targeting p300 addiction in CBP-deficient cancers causes synthetic lethality by apoptotic cell death due to abrogation of MYC expression. *Cancer Discov.* **6**, 430-445 (2015). doi:10.1158/2159-8290.CD-15-0754
4. S. Opp, D. A. S. A. Vieira, *et al.* MxB Is Not Responsible for the Blocking of HIV-1 Infection Observed in Alpha Interferon-Treated Cells. *J. Virol.* **90**, 3056-3064 (2015). doi:10.1128/JVI.03146-15
5. A. Paix, A. Folkmann, *et al.* High efficiency, homology-directed genome editing in Caenorhabditis elegans using CRISPR-Cas9 Ribonucleoprotein complexes. *Genetics.* **201**, 47-54 (2015) doi:10.1534/genetics.115.179382
6. G. Sivan, P. Ormanoglu, *et al.* Identification of Restriction Factors by Human Genome-Wide RNA Interference Screening of Viral Host Range Mutants Exemplified by Discovery of SAMD9 and WDR6 as Inhibitors of the Vaccinia Virus K1L-C7L- Mutant. *MBio.* **6**, e01122 (2015). doi:10.1128/mBio.01122-15
7. W. Deng, X. Shi, *et al.* CASFISH: CRISPR/Cas9-mediated in situ labeling of genomic loci in fixed cells. *Proc Natl Acad Sci U S A.* **112**, 11870–11875 (2015). doi:10.1073/pnas.1515692112

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