

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

Introduction

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.

2020

1. E. Kostaras, T. Kaserer, G. Lazaro, *et al.* [A systematic molecular and pharmacologic evaluation of AKT inhibitors reveals new insight into their biological activity](#). *British Journal of Cancer*. (2020). doi.org/10.1038/s41416-020-0889-4
2. T. Venit, K. Semesta, S. Farrukh, *et al.* [Nuclear myosin 1 activates p21 gene transcription in response to DNA damage through to DNA damage through a chromatin-based mechanism](#). *Communications Biology*. **3**(115). (2020). doi: 10.1038/s42003-020-0836-1
3. R.M. Garner, G. Skariah, A. Hadjitheodorou, *et al.* Neutrophil-like HL-60 cells expressing only GFP-tagged b-actin exhibit nearly normal motility. *Cytoskeleton*. (2020). doi: 10.1002/cm.21603

2019

1. D.A. Erkes, C.O. Field, C. Capparelli, *et al.* [The next-generation BET inhibitor, PLX51107, delays melanoma growth in a CD8-mediated manner](#). *Pigment Cell Melanoma Research*. **32**:687-696. (2019). doi:10.1111/pcmr.12788
2. P. Janus, A. Toma-Jonik, N. Vydra, *et al.* [Pro-death signaling of cytoprotective heat shock factor 1: upregulation of NOXA leading to apoptosis in heat-sensitive cells](#). *Cell Death & Differentiation*. (2020). doi: 10.1038/s41418-020-0501-8
3. H. Khan, A. Anshu, A. Prasad, *et al.* [Metabolic rewiring in response to biguanides is mediated by mROS/HIF-1 \$\alpha\$ in malignant lymphocytes](#). *Cell Reports*. **29**, 3009-3018 (2019). doi: 10.1016/j.celrep.2019.11.007
4. S. Kim, A. Bolatkan, S. Kaneko, *et al.* [Deregulation of the histone lysine-specific demethylase I is involved in human hepatocellular carcinoma](#). *Biomolecules*. **9**:810 (2019). doi: 10.3390/biom9120810
5. A.R. Leenay, A. Aghazadeh, J. Hiatt, *et al.* [Large dataset enables](#)

6. J. Li, R. An, S. Lai, *et al.* [Dysregulation of PP2A-Akt interaction contributes to sucrose non-fermenting related kinase \(SNRK\) deficiency induced insulin resistance in adipose tissue](#). *Molecular Metabolism*. (2019). doi: 10.1016/j.molmet.2019.07.009
7. J. Iwasaki, T. Komori, F. Nakagawa, *et al.* [Schlafen11 expression is associated with the antitumor activity of trabectedin in human sarcoma cell lines](#). *Anticancer Research*. **39**:3553-3563 (2019). doi: 10.21873/anticancer.13501
8. A. Shariati, A. Dominguez, *et al.* [Reversible Disruption of Specific Transcription Factor-DNA Interactions using CRISPR/Cas9](#). *Mol Cell*. **74**(3), 622-633.e4 (2019). doi: 10.1016/j.molcel.2019.04.011
9. S. Weigle, E. Martin, *et al.* [Primary cell-based phenotypic assays to pharmacologically and genetically study fibrotic diseases in vitro](#). *J Biol Methods*. **6**(2):e115 (2019). doi: 10.14440/jbm.2019.285
10. A. Perota, I. Lagutina, *et al.* [Generation of Cattle Knockout for galactose-a1,3-galactose and N-glycolylneuraminic acid antigens](#). *Xenotransplantation*. **00**:e12524 (2019). doi: 10.1111/xen.12524
11. D.A. Erkes, C.O. Field, *et al.* [The next-generation BET inhibitor, PLX51107, delays melanoma growth in a CD8-mediated manner](#). *Pigment Cell Melanoma Res*. **00**, 1-10 (2019). doi: 10.1111/pcmr.12788
12. S. Kobayashi, T. Contractor, *et al.* [Alleles of Insm1 Determine Whether RIP1-Tag2 Mice Produce Insulinomas or Nonfunctioning Pancreatic Neuroendocrine Tumors](#). *Oncogenesis*. **8**:16, 1-13 (2019). doi: 10.1038/s41389-019-0127-1
13. I. Rezuchova, S. Hudecova, *et al.* [Type 3 Inositol 1,4,5-triphosphate Receptor has Antiapoptotic and Proliferative Role in Cancer Cells](#). *Cell Death & Disease*. **10**:186, 1-10 (2019). doi: 10.1038/s41419-019-1433-4
14. W. Zhang, J. Wells, *et al.* [miR-147b-mediated TCA cycle dysfunction and Pseudohypoxia Initiate Drug Tolerance to EGFR Inhibitors in Lung Adenocarcinoma](#). *Nature Metabolism*. (2019). doi: 10.1038/s42255-019-0052-9

15. F. Fekri, J. Abousawan, *et al.* [Targeted enhancement of flotillin-dependent endocytosis augments cellular uptake and impact of cytotoxic drugs](#). *BioRxiv*. doi: 10.1038/s41598-019-54062-9
16. P. Palmboos, Y. Wang, *et al.* [ATDC Mediates a TP63-regulated Basal Cancer Invasive Program](#). *Oncogene*. **38**, 3340-3354 (2019). doi: 10.1038/s41388-018-0646-9
17. C. Buffone, J. Kutzner, *et al.* [The Ability of SAMHD1 to block HIV-1 but not SIV requires expression of MxB](#). *Virology*. **531**, 260-268 (2019). doi: 10.1016/j.virol.2019.03.018

2018

1. K. Hinohara, H.-J. Wu, *et al.* [KDM5 Histone Demethylase Activity Links Cellular Transcriptomic Heterogeneity to Therapeutic Resistance](#). *Cancer Cell*. **34**, 1-15 (2018). doi: 10.1016/j.ccell.2018.10.014
2. E.M. Anderson, S. McClelland, E. Maksimova, *et al.* [Lactobacillus gasseri CRISPR-Cas9 characterization In Vitro reveals a flexible mode of protospacer-adjacent motif recognition](#). *PLoS One*. **13**(2): e0192181 (2018). doi: 10.1371/journal.pone.0192181
3. T. Araujo, A. Khayat, L. Quintana, *et al.* [Piwi like RNA-mediated gene silencing 1 gene as a possible major player in gastric cancer](#). *World J Gastroenterol* **24**(47):5338-5350 (2018). doi: 10.3748/wjg.v24.i47.5338
4. 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
5. 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*. **27**, 827-852 (2018). doi: 10.1093/hmg/ddy004
6. S. Melnik, D. Dvornikov, *et al.* [Cancer cell specific inhibition of Wnt/β-catenin signaling by forced intracellular acidification](#). *Cell Discov*. **4**, 37 (2018). doi: 10.1038/s41421-018-0033-2
7. S. J. Pettitt, D. B. Krastev, *et al.* [Genome-wide and high-density CRISPR-Cas9 screens identify point mutations in PARP1 causing PARP inhibitor resistance](#). *Nat Commun*. **9**, 1849 (2018). doi: 10.1038/s41467-018-03917-2
8. P. G. Ziros, I. G. Habeos, *et al.* [NFE2-Related Transcription Factor 2 Coordinates Antioxidant Defense with Thyroglobulin Production and Iodination in the Thyroid Gland](#). *Thyroid*. **28**, 780-798 (2018). doi: 10.1089/thy.2018.0018

2017

1. 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
2. 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
3. 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
4. J. F. Hultquist, J. Hiatt, *et al.* [A CRISPR-Cas9 Genome Engineering Platform in Primary CD4+ T Cells for the Interrogation of HIV Host Factors](#). *bioRxiv* 205500 (2017) doi: 10.1101/205500
5. S. Kim, S. R. F. Twigg, *et al.* [Localized TWIST1 and TWIST2 basic domain substitutions cause four distinct human diseases that can be modeled in Caenorhabditis elegans](#). *Hum Mol Genet*. **26**, 2118-2132 (2017). doi: 10.1093/hmg/ddx107

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. A. Paix, A. Folkmann, *et al.* [Precision genome editing using synthesis-dependent repair of Cas9-induced DNA breaks](#). *Proc Natl Acad Sci U S A*. **114**, E10745-E10754 (2017). doi: 10.1073/pnas.1711979114
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9. 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
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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. 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
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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
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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
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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
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