PATENTS

Gene editing

Recent patents related to CRISPR-based gene editing, disease treatment and methods for targeting nucleic acids.

Patent number	Description	Assignee	Inventor	Date
US 10,676,735	Methods of using CRISPR/Cas9-based epigenomic editing systems for high-throughput screening of regulatory element function.	Duke University (Durham, NC, USA)	Gersbach CA, Crawford GE, Reddy TE, Klann TS	6/9/2020
US 10,669,559	Methods and vectors for rational, multiplexed manipulation of chromosomes within open reading frames (for example, in protein libraries) or any segment of a chromosome in a cell or population of cells, in which various CRISPR systems are used.	The Regents of the University of Colorado (Denver, CO, USA)	Garst A, Gill RT	6/2/2020
US 10,669,540	Systems, methods and compositions for targeting nucleic acids. In particular, non-naturally occurring or engineered DNA- or RNA-targeting systems comprising a novel DNA- or RNA-targeting CRISPR effector protein and at least one targeting nucleic acid component like a guide RNA.	The Broad Institute (Cambridge, MA, USA), Massachusetts Institute of Technology (Cambridge, MA, USA), President and Fellows of Harvard College (Cambridge, MA, USA)	Zhang F, Zetsche B, Slaymaker I, Gootenberg J, Abudayyeh OO	6/2/2020
US 10,590,415	Engineered Class 2 CRISPR-Cas-associated discontinuous first-stem nucleic-acid targeting nucleic acids, nucleoprotein complexes comprising these nucleic acids, and compositions thereof. Also, methods for making and using the Class 2 CRISPR-Cas-associated discontinuous first-stem nucleic-acid-targeting nucleic acids, nucleoprotein complexes comprising such nucleic acids, and compositions thereof.	Caribou Biosciences (Berkeley, CA, USA)	Donohoue PD, May AP	3/17/2020
US 10,369,232	Compounds, structures, compositions and methods for therapeutic guide molecules that direct CRISPR gene editing. A guide molecule for directing gene editing can be allele selective or disease-allele selective, and can exhibit reduced off-target activity. A guide molecule can be composed of monomers, including UNA monomers, nucleic acid monomers and modified nucleotides, wherein the compound is targeted to a genomic DNA. The guide molecules can be used as active ingredients for editing or disrupting a gene in vitro, ex vivo or in vivo.	Arcturus Therapeutics (San Diego, CA, USA)	Chivukula P, Wilkie-Grantham R, Tachikawa K	8/6/2019
US 10,279,014	A method of eliminating the risk of JCV activation in a subject undergoing immunosuppressive therapy, by administering an effective amount of a gene-editing composition directed toward at least one target sequence in the JCV genome, cleaving the target sequence in the JCV genome, disrupting the JCV genome, eliminating the JCV infection, eliminating the risk of JCV activation, and treating the subject with an immunosuppressive therapy.	Excision BioTherapeutics (Philadelphia, PA, USA), Temple University (Philadelphia, PA, USA)	Khalili K, Malcolm T, Kohn KI	5/7/2019
US 10,253,312	CRISPR/Cas-related compositions and methods for treatment of Leber's congenital amaurosis 10.	Editas Medicine (Cambridge, MA, USA)	Maeder ML, Bumcrot DA, Shen S	4/9/2019
US 9,970,030	Methods for use with Type II CRISPR-Cas9 systems for increasing Cas9-mediated genome engineering efficiency. The methods can be used to decrease the number of off-target nucleic acid double-stranded breaks and/or to enhance homology-directed repair of a cleaved target nucleic acid.	Caribou Biosciences (Berkeley, CA, USA)	Cameron PS, Haurwitz RE, May AP, Nye CH, van Overbeek M	5/15/2018

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