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2	Patent number	Title	Priority date	Priority number	Publication date	Abstract	Applicants/Assignees (Short Affiliations)	Breakdown: Claim coverage	Breakdown: Components	Breakdown: Chimeric proteins
497	US20170114334; WO2015200555;	Rna modification to engineer cas9 activity	2014-06-25	US201462017113;	2015-12-30	The disclosure provides for compositions, methods and kits, for reducing off-target effects of genome engineering. In one aspect, a composition is provided comprising an engineered nucleoprotein complex. In some cases, the engineered nucleoprotein complex comprises a Cas9 polypeptide and a non-natural nucleic acid-targeting nucleic acid, wherein the non-natural nucleic acid targeting nucleic acid comprises an engineered region selected from the group consisting of: an engineered stem loop duplex structure, an engineered bulge region, an engineered hairpin located 3' of the stem loop duplex structure, and any combination thereof.	CARIBOU BIOSCIENCES (US);	Undefined cell-organism; Eukaryotic cell-organism; Therapeutics-Diagnostics; Genome editing; CRISPR system;	gRNA; Cas9;	RNA-Guided Nucleases;
498	CN104059977;	Salmonella serotype identification method and kit thereof	2014-06-25	CN20140293102;	2014-09-24	The invention provides a salmonella serotype identification method, comprising the following steps: 1) extracting a deoxyribonucleic acid (DNA) in a to-be-tested sample; 2) taking the DNA obtained in the step 1) as a template, and carrying out polymerase chain reaction (PCR) detection, wherein the PCR detection target is salmonella CRISPR1 and CRISPR2; 3) carrying out sequence determination on a PCR product in the step 2); 4) searching front three spacer sequences corresponding to the CRISPRs by virtue of online free software CRISPRfinder and carrying out homologous comparison with each serotype standard spacer sequence; and 5) judging the comparison results, and simultaneously identifying 23 common salmonella serotypes. The invention also provides a kit for identifying the salmonella serotypes. The kit comprises a primer for amplifying the salmonellae CRISPR1 and CRISPR2, and standard spacer sequence tablets of 23 common salmonella serotypes are provided.	SHANGHAI JIAO TONG UNIV (CN);	CRISPR sequence;		
499	US20150376651; EP3161128; IL249637; IN201717002363; US20160046960; CN107002093; SG11201610633Q; MX2016017317; RU2017101330; WO2015200805; DK3161128; JP2017518758; CA2953559; LT3161128; BR112016030147; KR20170023118; US20180251784; AU2015279642; US9902971;	Methods and compositions for targeted genetic modifications and methods of use	2014-06-26	US201462017582;	2015-12-30	Methods and compositions are provided for generating targeted genetic modifications on the Y chromosome or a challenging target locus. Compositions include an in vitro culture comprising an XY pluripotent and/or totipotent animal cell (i.e., XY ES cells or XY IPS cells) having a modification that decreases the level and/or activity of an Sry protein; and, culturing these cells in a medium that promotes development of XY F0 fertile females. Such compositions find use in various methods for making a fertile female XY non-human mammal in an F0 generation.	REGENERON PHARMA (US);	Mammalian cell-organism; Genome editing; Modified animal; Modified cell;	Cas9; sgRNA-chiRNA; crRNA; mutated Cas9-nickase; tracrRNA; Cas-CRISPR enzyme; gRNA;	Undefined nucleases; RNA-Guided Nucleases; Meganucleases; ZF Nucleases; TALE Nucleases;
500	WO2015199225; JPWO2015199225;	Genetic modification method for poultry primordial germ cells, genetically-modified poultry primordial germ cells, method for producing genetically-modified poultry, and poultry eggs	2014-06-27	JP20140132007;	2015-12-30	The present invention provides a genetic modification method for poultry primordial germ cells, characterized by modifying a gene of the poultry primordial germ cell by genome editing.	AIST (JP); NARO (JP);	Other animal cell-organism; Other application; Bioproduction; Genome editing; Modified animal; Modified cell;	Cas-CRISPR enzyme; gRNA;	RNA-Guided Nucleases; TALE Nucleases;
501	CN104059877;	Method for preparing 'imitated Belgian blue cattle' myostatin (MSTN) genotype gene editing pig	2014-06-27	CN20140300756;	2014-09-24	The invention discloses a method for preparing an 'imitated Belgian blue cattle' myostatin (MSTN) genotype gene editing pig. By adopting the method provided by the invention, a targeted area in an MSTN gene exon 3 of a target porcine genome is subjected to genome editing, so that the exon 3 forms a terminator codon in advance to terminate expression, so as to obtain the 'imitated Belgian blue cattle' MSTN genotype gene editing pig. Compared with the other mutation types (not forming frameshift mutation or terminator codon in advance) of gene editing, by adopting the 'imitated Belgian blue cattle' MSTN genotype gene editing pig prepared by the method, the terminator codon can be formed in advance, and the method is more effective to modification of the MSTN gene.	CAAS (CN);	Mammalian cell-organism; Genome editing; Modified animal;	Cas-CRISPR enzyme; gRNA;	RNA-Guided Nucleases; ZF Nucleases; TALE Nucleases;
502	CN105315352;	Insect targeted gene knock-in composition, use method and application thereof	2014-07-01	CN20140310822;	2016-02-10	The invention provides a composition used in insect targeted gene knock-in, which includes a single nickase or an encoding polynucleotide thereof; a recombinant factor or an encoding polynucleotide thereof; and optionally, a donor DNA of an exogenous gene. The invention also provides a corresponding gene knock-in method and a method for preparing transgenic insects. The composition and the method in the invention can achieve high-effective homologous recombination integration in insect cells and meanwhile can avoid the defects in gene knock-in technologies in the prior art. The composition also can stably and high-effectively achieve homologous recombination integration of a fragment being more than 10 kb in length in the insect cells, so that the composition can be used for transferring a genetic selection marker into the insect cells, preferably a visible genetic selection marker, which is convenient to determine strains of transgenic insects.	FUZHOU UNIV (CN);	CRISPR system; Other animal cell-organism; Genome editing; Modified animal; Modified cell;	sgRNA-chiRNA; mutated Cas9-nickase;	RNA-Guided Nucleases;
503	US20180187172; WO2016004010;	Regulated gene expression from viral vectors	2014-07-01	US201462019605;	2016-01-07	The present disclosure relates to vectors for the controlled expression transgenes and methods of use therefor.	UNIV TEXAS SYSTEM (US);	Vector-Delivery; Eukaryotic cell-organism; Plant cell-organism; Other animal cell-organism; Mammalian cell-organism; Bioproduction; Therapeutics-Diagnostics;	gRNA; Cas9;	RNA-Guided Nucleases;
504	US10081816;	Mechanical transfection devices and methods	2014-07-03	US201462020910;	2018-09-25	Systems and methods for transfection devices are contemplated for delivery of various complex macrostructures. Preferred systems and methods are suitable for mRNA reprogramming and genome editing and use mechanical force to induce uptake of the macrostructures in a target cell. Contemplated devices are able to achieve high throughput of transfected cells in remarkably short time that remain viable and are capable of producing colonies.	NANTWORKS (US);	Undefined cell-organism; Human cell-subject; Genome editing; Modified cell; Vector-Delivery;	gRNA;	Other chimeric proteins; RNA-Guided Nucleases;
505	EP3164482; US20170218355; WO2016003485;	Microfluidic assay for rapid optimization of cell electroporation	2014-12-10	US201415320696;	2016-01-07	An electroporation device with a volume of varying cross sectional area that as a fast assay device for determining the optimal conditions for plasma membrane electroporation.	MIT (US);	Undefined cell-organism; Prokaryotic cell; Eukaryotic cell-organism; Fungi-algae-yeast; Plant cell-organism; Mammalian cell-organism; Vector-Delivery;	Cas-CRISPR enzyme; gRNA;	Other chimeric proteins; RNA-Guided Nucleases;
506	EP2962694;	Novel polypeptides and their use	2014-07-04	EP20140002295;	2016-01-06	The invention relates to novel polypeptides, nucleic acids encoding same, vectors comprising same, host cells and their use.	UNIV LAUSANNE (CH);	Undefined cell-organism; Human cell-subject; Therapeutics-Diagnostics; Genome editing;	Cas9; gRNA;	RNA-Guided Nucleases; ZF Nucleases; TALE Nucleases;
507	EP3167071; US20170198268; WO2016007604;	Compositions and methods for site-directed dna nicking and cleaving	2014-07-09	US201462022617;	2016-01-14	Aspects of the disclosure relate to compositions and methods for site-directed DNA nicking and/or cleaving, and use thereof in, for example, polynucleotide assembly.	GEN9 (US);	Other application; CRISPR system;	Nuclease-Nickase; gRNA; Cas9; dCas9; mutated Cas9-nickase;	Undefined nucleases; Other chimeric nucleases; RNA-Guided Nucleases; Meganucleases; ZF Nucleases; TALE Nucleases;