

Supplementary Table 1: The disease codes and the corresponding diseases studied using CRISPR tool were presented along with the PubMed source information.

| (A) Disease | Codes | PubMed source | | | |
|---------------------------------|----------------|--|------------------|------------------|------------------|
| Acute coronary syndrome | D054058 | 28782493 | | | |
| Acute kidney disease | D007674 | 29224783 | | | |
| Acute myeloid leukemia | D015470 | 29880605 | | | |
| AIDS | D000163 | 25893217, 28945022, 29968495 | | | |
| ALCL | D017728 | 28607076 | | | |
| Alzheimer's disease | D000544 | 30027900, 30040732, 30076486, 30479676 | | | |
| Amyotrophic lateral sclerosis | D000690 | 26423934, 30027900 | | | |
| Anaplastic lymphoma | D008223 | 28607076 | | | |
| Aneuploidy | D000782 | 27743815 | | | |
| Arrhythmia | D001145 | 30394905 | | | |
| Arthritis | D001168 | 28457885 | | | |
| Atherosclerotic heart disease | D050197 | 29343412 | | | |
| Attenuated hepatic steatosis | D005234 | 30279144 | | | |
| Autoimmunity | D001327 | 30569414 | | | |
| Autosomal-dominant hearing loss | D034381 | 30194069 | | | |
| Becker muscular dystrophy | D020388 | 28390761 | | | |
| Blastocyst complementation | D007153 | 29234093 | | | |
| Blood disorders | D025861 | 30194069 | | | |
| Bone mineral density | D001847, | 29528523, 28390761 | | | |
| | D020388 | | | | |
| Breast cancer | D001943 | 29344267, 29938175, 30195750 | | | |
| Bronchopulmonary dysplasia | D001997 | 30178747 | | | |
| B-thal | D013789 | 29164808 | | | |
| Cancer | D009369 | 26060510, | 27576906, | 27594566, | 27713700, |
| | | 27809915, | 27840276, | 28430577, | 28607076, |

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|-----------------------------------|---------|--|-----------|-----------|-----------|
| | | 28644958, | 28840558, | 29118424, | 29344267, |
| | | 29478674, | 29561796, | 29590011, | 29709259, |
| | | 29732484, | 29790357, | 29849821, | 30194069, |
| | | 30262668, | 30459119, | 30520167, | 30571609, |
| | | 30586281, | 28711281, | 30027026, | 26496750, |
| | | 28918044, | 29179174, | 29849821, | 29980644, |
| | | 29988332 | | | |
| Cardia | D004938 | 23528705 | | | |
| Cardiomyopathies | D009202 | 30231257, 30302938 | | | |
| Cardiotoxicity | D066126 | 27545504 | | | |
| Cardiovascular and other diseases | D002318 | 28057368, 30251625, 29343412, 30231257 | | | |
| CAR-T | D015458 | 30110720 | | | |
| CF | D003550 | 28676762, 29685812, 30282831 | | | |
| CF liver disease | D008103 | 30282831 | | | |
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| (B) Disease | Codes | PubMed source |
|---|--------------|----------------------|
| Chemosensory and mechanosensory impairments | D003072 | 30361258 |
| Chlamydia | D002690 | 26297854 |
| Chronic hepatitis E | D006521 | 29277559 |
| Chronic kidney disease | D051436 | 30459215 |
| Colorectal cancer | D015179 | 29118424 |
| Combined immunodeficiency | D007153 | 26516165 |
| Complex diseases | D004194 | 30459119 |
| convenient handling | C562385 | 29731778 |
| corneal dystrophies | D003317 | 29378321 |
| CRB | C536600 | 28424578 |
| CVDs | D002318 | 28782493 |
| cyst formation from kidney tubules | D007674 | 26493500 |

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| cystic fibrosis | D003550 | 26511847, 30282831 |
| cytotoxicity | D064420 | 29083112 |
| death | D003643 | 28616376 |
| decreased malonylation | D034381 | 30279144 |
| degenerative diseases | D019636 | 26536430 |
| dementia with Lewy bodies dependence | D020961 | 26948950 |
| | D019966 | 27633468 |
| diabetes | D003920 | 26536430, 29224783, 30412052, 30569414, |
| | | 26887909 |
| diarrhoea | D003967 | 29483943 |
| Different genetic kidney disorders | D030342 | 30459215 |
| | | |
| Diffuse large B cell lymphomas | D016393 | 28985559 |
| dilated cardiomyopathy | D002311 | 26473617, 30302938 |
| diseases and disorders | D030342 | 24917359 |
| Diseases of the nervous system | D009422 | 29399048 |
| DLB | D020961 | 26948950 |
| DLBCL | D016393 | 28985559 |
| DMD | D020388 | 26762977, 28390761, 30076486, 30379597 |
| DSB | D019457 | 26506267 |
| Duchenne muscular dystrophy | D020388 | 27058929, 28484312 |
| entrepreneurial movement | D009069 | 28100080 |
| epilepsy | D004827 | 30448857 |
| epithelial disease | D004194 | 26493500 |
| ES | D012512 | 29019208 |
| eye disease | D005128 | 28141764, 29376001 |
| facial anomalies syndrome | D000013 | 24084724 |
| fibrosis | D005355 | 30178747 |

| (C) Disease | | Codes | PubMed source | | | |
|----------------|--|---------|---------------|-----------|-----------|-----------|
| genetic defect | | D030342 | 28616376, | 28711281, | 25420886, | 27743815, |

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|----------------------------------|--|----------|--|-----------|-----------|-----------|
| | | | 24877793, | 25633595, | 26747759, | 27531817, |
| | | | 30200518, 30282831, 26382836, 30448857 | | | |
| glaucoma | | D005901 | 26528114 | | | |
| HCC target discovery | | D006528 | 28455974 | | | |
| HCM | | D002312 | 29914921 | | | |
| HCV infection | | D007239 | 30593622 | | | |
| HD | | D006816 | 28172889 | | | |
| HDFs | | D015658 | 30525482 | | | |
| HDR | | D006086, | 26369767, | 26887909, | 28462777, | 29164808, |
| | | C537907 | 30239926 | | | |
| Hearing loss | | D034381 | 29872546 | | | |
| heart diseases | | D006331 | 29155789 | | | |
| heart failure | | D006333 | 29343412 | | | |
| heartless embryos | | D020964 | 28794185 | | | |
| hematologic and solid tumors | | D009369 | 30110720 | | | |
| hematological diseases | | D006402 | 27531817 | | | |
| hematopoiesis | | C536227 | 27538887 | | | |
| Hematopoietic progenitor cells | | D019337 | 30016991 | | | |
| | | | | | | |
| hereditary cancers | | D009386 | 29980644 | | | |
| hereditary disease | | D030342 | 25349712 | | | |
| Hereditary retinal degenerations | | D012162 | 25613576 | | | |
| hereditary retinal diseases | | D030342 | 29113536 | | | |
| hereditary retinal dystrophies | | D058499 | 30486314 | | | |
| HEV in hepatocyte-like cells | | D056486 | 29277559 | | | |
| HIV infection | | D015658 | 25893217, 27594566, 29968495 | | | |
| homology directed repair | | D006086 | 30311729, 23940360 | | | |
| human diseases | | D004194 | 26516165, 29770269 | | | |
| Human immunodeficiency virus | | D015658 | 30133783 | | | |
| | | | | | | |
| Huntington disease | | D006816 | 30027900, 28172889 | | | |
| hypercholesterolemia | | D006937 | 29343412 | | | |

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|--------------------------------|---------|--|--|--|--|
| hypertensive | D006973 | 29343412 | | | |
| hypertrophic | D006984 | 30231257 | | | |
| inborn genetic disorders | D030342 | 29130157 | | | |
| infection | D007239 | 26926339, 29277559, 27594566 | | | |
| infectious disease | D003141 | 29130157, 25722247, 27713700, 30079101 | | | |
| infertility | D007246 | 30353505 | | | |
| inflammation | D007249 | 28457885, 29083112 | | | |
| Inflammatory ocular disorders | D015785 | 29376001 | | | |
| | | | | | |
| inherited retinal degeneration | D012162 | 29259527 | | | |
| inherited retinal diseases | D030342 | 29259527, 26078042 | | | |

| (D) Disease | Codes | PubMed Source |
|--------------------------------|--------------|----------------------|
| inherited retinal dystrophy | D058499 | 28163772 |
| insufficient target conversion | D000309 | 28992411 |
| Kaposi sarcoma virus | D012514 | 30133783 |
| kidney disease | D007674 | 29961307 |
| Leber's congenital amaurosis | D057130 | 28424578, 29259527 |
| leukemia | D007938 | 29880605 |
| Leukodystrophies | D007966 | 30112967 |
| liver cancer | D008113 | 29988332 |
| liver diseases | D008107 | 28670513, 29091160 |
| LQTS | D008133 | 30394905 |
| lung cancer | D008175 | 28644958 |
| macular degeneration | D008268 | 27398291 |
| malaria | D008288 | 28945022 |
| metabolic disorders | D008659 | 30279144, 30292915 |

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| metastatic lung cancer | D008175 | 29732484 |
| mitochondrial dysfunction | D028361 | 29179920 |
| modelling diseases | D004195 | 30302938 |
| MS | C536030 | 28607076 |
| multiple pregnancies | D011254 | 28081156 |
| multiple system atrophy | D019578 | 26948950, 26948950 |
| muscle disorders | D009135 | 26122099, 28616376, 26473617 |
| muscular dystrophies | D009136 | 28616376 |
| myriad of diseases | D004194 | 29130151 |
| NDDs | D002658 | 28170165 |
| neonatal diabetes | D003920 | 30412052 |
| neurodegenerative disorders | D019636 | 26528114, 30076486, 30027900, 29399048, |
| | | 26423934 |
| neurodevelopmental disease | D009422 | 28170165 |
| neurodevelopmental | D002658 | 28170165 |
| disorders | | |
| NHEJ | D007676 | 30239926 |
| Nonsense-mediated mRNA | D003731 | 27259145 |
| decay | | |
| obesity | D009765 | 29732484 |
| ocular diseases | D005128 | 29376001 |
| osteoporosis | D010024 | 29528523 |
| pancreatic fibrosis | D003550 | 30282831 |
| papillary thyroid cancer | C536915 | 28350298 |
| PD | D010300 | 26948950 |

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| photoreceptor degeneration | D009410 | 26814166 |
| phototoxicity | D017484 | 29967137 |
| polycystic kidney disease | D007674 | 26493500 |
| primary lymphoma | D008223 | 28607076 |
| prostate cancer | D011471 | 30262668 |

| (E) Disease | Codes | PubMed Source | | | |
|--|--------------|------------------------------|-----------|-----------|-----------|
| Protein malonylation | C535702 | 30279144 | | | |
| RA | D001172 | 27267163 | | | |
| recessive genetic diseases | D030342 | 29164808 | | | |
| renal disease | D007674 | 30459215, 29961307, 30200518 | | | |
| respiratory failure | D012131 | 26423934 | | | |
| respiratory infection | D012141 | 26926339 | | | |
| retinal disease | D012164 | 26814166, | 26427458, | 29259527, | 30486314, |
| | | 28424578 | | | |
| retinal dystrophies | D058499 | 29113536 | | | |
| RP | D012174 | 25613576, 29259527 | | | |
| SCID | D053632 | 27809915 | | | |
| sickle cell disease | D000755 | 29164808 | | | |
| solid tumors | D009369 | 30110720, 30571609 | | | |
| Stargardt disease | C580470 | 29259527 | | | |
| Synucleinopathy spectrum disorders | D002659 | 26948950 | | | |
| T2D | D003924 | 30279144 | | | |
| target disease | D004194 | 26423934 | | | |
| thalassemia | D013789 | 28945022 | | | |
| thyroid cancers | D013964 | 29849821, 28350298 | | | |
| T-lymphotrophic virus-1, and hepatitis B | D006509 | 30133783 | | | |
| toxicity | D064420 | 27713700, 28053071, 28941336 | | | |

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|-------------------------------------|----------------|------------------|------------------|------------------|------------------|
| transformed disease | D004194 | 29803990 | | | |
| traumatic tissue injury | D014947 | 29872546 | | | |
| treatment-sensitive prostate cancer | D011471 | 30262668 | | | |
| Tumour | D009369 | 26060510, | 26516165, | 27576906, | 28644958, |
| | | 28711281, | 29130157, | 29478674, | 30110720, |
| | | 30133783, | 30194069, | 30195750, | 30571609, |
| | | 29849821, | 30262668, | 28430577, | 29980644, |
| | | 30520167 | | | |
| type I diabetes | D003922 | 27633468 | | | |
| various disease | D004194 | 27531817 | | | |
| viral infections | D014777 | 30076486 | | | |
| visual sciences | D014786 | 28573077 | | | |
| vitro disease | D004194 | 26423934 | | | |
| VUS | D065309 | 29914921 | | | |
| Werner syndrome | D014898 | 30479676 | | | |
| X-linked muscle-wasting disorder | D009135 | 26762977 | | | |
| X-linked retinitis pigmentosa | C564481 | 26814166 | | | |
| XP | D014983 | 29416673 | | | |
| XPF | C562592 | 29416673 | | | |
| XPG | C562593 | 29416673 | | | |