

Library Number	RMK008
Library Name	KV general library
Old Document Name	KV-LIBRARY-CSV-MAGECK
Library Purpose	CRISPR/Cas9 knockout of a few key genes in various metabolic pathways in mouse T cells
Location	Room B3301 -20C, KV CRISPR cloning box
Designer Name	Kelsey Voss
Designing Date	2020
Design Reference	Kelsey Voss
Usage Reference	Kelsey Voss
Species	Mouse (Mus musculus)
Total Gene #	101
Total Target #	412
Gene Group	Glycolysis, fatty acid metabolism, carbon metabolism, glutamine, autophagy, oxidative stress, TCA cycle, sphingolipid metabolism, OXPHOS, arginine/urea cycle, solute transporters
1. Negative Controls	Random sequences "NTC" =8. Also Il2ra, Foxp3, Tbet, FasI, etc. (controls for specific T cell populations)
2. Positive Controls	Rheb
Target Number	
1. Negative Controls	8*1=8
2. Positive Controls	IL2ra

Number	Gene name	Guide sequence
1	Aco1	CCACCGCCATTTAGGCCGCG
2	Aco1	CATATGCTATTACCAGAGGG
3	Aco1	TAGCCCACCACATCAAACCT
4	Aco1	GTGTAGCACCTCCGACAAGT
5	Ahr	AGCTGTGCACAAGAGGATCG
6	Ahr	GTATAATAGACTGCTGCCTG
7	Ahr	TCTCCGGTAGCAAACATGAA
8	Ahr	GTGGAAAGAATCCTTACTTG
9	Aldoa	AATGGCGAGACAACTACCCA
10	Aldoa	CCTTGCCCGGAGCCACAATG
11	Aldoa	CCACGAGACACTGTACCAGA
12	Aldoa	GCCAGCATCTGCCAGCAGGT
13	Atg5	AAGAGTCAGCTATTTGACGT
14	Atg5	AAATGTACTGTGATGTTCCA
15	Atg5	CCTTCTACACTGTCCATCCA
16	Atg5	AAGAAAACTCACCATTTCA
17	Cd5l	GGCTGATATGATGCGCCACG
18	Cd5l	CAACGGAACGGAAGACACGT
19	Cd5l	AGCTGCAACAAGAATACTCA
20	Cd5l	ACCAAAGTGCAGCTAGTGGG
21	Arg1	AATAAACTTACTGTTCCCCA
22	Arg1	AGTATGACGTGAGAGACCAC
23	Arg1	AAATGACACATAGGTCAGGG
24	Arg1	AGATGTACCAGGATTCTCCT
25	Arg2	CCAATGTACACAATATTTGG
26	Arg2	TACACAACCAGATTATTGTA
27	Arg2	TTTCCAGATACAGTGGTGAG
28	Arg2	GTCCACTCTGTAGCTATAGT
29	Ass1	TAACATCTTACCTTAATCTG
30	Ass1	TGGGATCCTGGAAAACCCCA
31	Ass1	AAGGCACTTCCTCACCAGGT
32	Ass1	TGCCTTCACCTGTAGCAACA
33	Atp5a1	TGGTCAGAAGCGGTCCACTG
34	Atp5a1	GCTCCCGCACAGAGATTCCG
35	Atp5a1	ACTGGGCGTGTGTTAAGCAT
36	Atp5a1	CCAACAGCTCCTCGCCAACG
37	Atp5b	CTGCTGGCCCCATACGCCAA
38	Atp5b	GCGCTTACCAGGATGAACCC
39	Atp5b	AAATACAGAGTAACCACCAT
40	Atp5b	CCCACCCTAGCCACCGACAT
41	Slc7a1	GCCATGGCATAGATAACTCG
42	Slc7a1	CACAAACGTGAAATACGGTG
43	Slc7a1	TGACGTGAGAACTCTCCGAT

Number	Gene name	Guide sequence
44	<a href="#">Slc7a1</a>	CCAGGTCCTTCAGTTCAAAG
45	<a href="#">Bcl6</a>	TCTCCACGACCTCACGACCT
46	<a href="#">Bcl6</a>	ATGTTGCTGTGACACAACT
47	<a href="#">Bcl6</a>	AATGCACCCTTGAACCGGAA
48	<a href="#">Bcl6</a>	GAGGGAAGGCAATATCATGG
49	<a href="#">Cox7a1</a>	GACCTCCCAGTACTTTGAA
50	<a href="#">Cox7a1</a>	AAGCCACTTAGAAAACCGTG
51	<a href="#">Cox7a1</a>	TGGTAGATGAGCTAAAAGAC
52	<a href="#">Cox7a1</a>	AAAAGACCGGACCAGAGCCT
53	<a href="#">Cpt1a</a>	CACATTGTCGTGTACCACAG
54	<a href="#">Cpt1a</a>	CATACTGCTGTATCGTCGCA
55	<a href="#">Cpt1a</a>	ACCTTGGACCCAAATTGCAG
56	<a href="#">Cpt1a</a>	ACGTTGGACGAATCGGAACA
57	<a href="#">Dhfr</a>	GACATGGTTTTGGATAGTCGG
58	<a href="#">Dhfr</a>	AACCTCAGAGAACCACCACG
59	<a href="#">Dhfr</a>	TCGCCGTGTCCCAAATATG
60	<a href="#">Dhfr</a>	CAGCCCGGCCAATACCTGAG
61	<a href="#">Fasl</a>	AGGACCACAACACAAATCTG
62	<a href="#">Fasl</a>	CTTCACTCCAGAGATCAGAG
63	<a href="#">Fasl</a>	CCTCTGAAAAAAAAAGAGCCG
64	<a href="#">Fasl</a>	GGAAGTGGCAGAAGTCCGTG
65	<a href="#">Fasn</a>	CTACCAGGCCATCCGTAGTG
66	<a href="#">Fasn</a>	TGTCTCCGAAAAGAGCCGGG
67	<a href="#">Fasn</a>	TTGGTGGAGCCAATTAACAG
68	<a href="#">Fasn</a>	ACTGGCAATCTGATTGTGAG
69	<a href="#">Fbp1</a>	CATGGCAAGGACCAACATGG
70	<a href="#">Fbp1</a>	CACAAGAACACAGGTAGCGT
71	<a href="#">Fbp1</a>	TGGCTCAACCAATGTGACTG
72	<a href="#">Fbp1</a>	AACATCTACAGCCTTAATGA
73	<a href="#">G6pdx</a>	AGAGGTGGAAACTGACAACG
74	<a href="#">G6pdx</a>	TGCCCCGCTCACGACTCACAG
75	<a href="#">G6pdx</a>	ATGACCCACAGTACCCCAT
76	<a href="#">G6pdx</a>	AGAGATGGTCCAGAATCTCA
77	<a href="#">Gapdh</a>	GCTGTGGCGTGATGGCCGTG
78	<a href="#">Gapdh</a>	AAACAGGCCCACTTGAAGGG
79	<a href="#">Gapdh</a>	TGCCATTTGCAGTGGCAAAG
80	<a href="#">Gapdh</a>	GGCCGGTGCTGAGTATGTCG
81	<a href="#">Gata3</a>	CTACTACGGAAACTCCGTCA
82	<a href="#">Gata3</a>	CCGGGTTCGGATGTAAGTCG
83	<a href="#">Gata3</a>	GCAGCTGCACCTGATACTTG
84	<a href="#">Gata3</a>	TCCAAGACGTCCATCCACCA
85	<a href="#">Gclc</a>	TGTGCCGGTCCTTGACTGCG
86	<a href="#">Gclc</a>	CAATATGAGGAAACGCCGGA

Number	Gene name	Guide sequence
87	Gclc	AGAAACATCCGGCATCGGAG
88	Gclc	TGTAGATGATAGAACACGGG
89	Gls	CGACGCGTTCGGCAACAGCG
90	Gls	TGTACATCGCTATGTTGGGA
91	Gls	GATTGCGAACATCTGATCCC
92	Gls	ATATAACTCATCGATGTGTG
93	Got1	GATCCCCGCAAGGTTAACCT
94	Got1	GTTGGTGTATGATACGTAGAT
95	Got1	AGACCTAGAGAAAGATGCGT
96	Got1	CATTCGGCCCTATTGCTACT
97	Got2	TGGAGGTCCCATTTCAACAT
98	Got2	TTTCTGCCCAAACCATCCTG
99	Got2	CATCCTCCTCACCTTCACCA
100	Got2	AGCTCACCTTCCGGACACTG
101	Hif1a	TGAACATCAAGTCAGCAACG
102	Hif1a	ATAACGTGAACAAATACATG
103	Hif1a	GTGAGAAAACCTTCTGGATGC
104	Hif1a	AGTAAGAAAATTTTCATATCG
105	Hk1	CCGACAATCCAAAATAGACG
106	Hk1	CGTAGCCGCCATTGAAACGT
107	Hk1	GGATCTTTACCAGTAGGACT
108	Hk1	CTCCCGGGATTATAACCCAA
109	Hk2	ATTCCCGAGGACATCATGCG
110	Hk2	GGAGATGCGTCACATTGACA
111	Hk2	ATCCGGAGTTGACCTCACAA
112	Hk2	GGAGTGGCACACACATAAGT
113	Idh1	CCCAGCCTGTCACTAGCCGG
114	Idh1	GGCTATAAAGAAATACAACG
115	Idh1	AATTCAAGTTGAAACAAATG
116	Idh1	TGGTACATGACTTTGAAGGT
117	Il2ra	GTGTCTGTATGACCCACCCG
118	Il2ra	ATCTTGCAGATGCTAATAGC
119	Il2ra	GAGAGGTTTCCGAAGACTAA
120	Il2ra	GAATCTTCATGTTTCCAAGG
121	Ldha	CAAGCTGGTCATTATCACCG
122	Ldha	GTTGCAATCTGGATTCAGCG
123	Ldha	GGAGAACATGGCGACTCCAG
124	Ldha	GTCATGGAAGACAAACTCAA
125	Slc3a2	GTTACCCGGCTTATCCAAGG
126	Slc3a2	CGCCCGAACGATGATAACCA
127	Slc3a2	TATCACCAAGAACTTAAGTG
128	Slc3a2	GTACTIONTCCCTAGTCACT
129	Mdh1	GTCAGCGCCATCGATCCCCA

Number	Gene name	Guide sequence
130	Mdh1	GTCCATAGATGTCATTGCAA
131	Mdh1	GACATTCTTTACATCATCAG
132	Mdh1	GTCTTTGGGAAAGACCAGGT
133	Mthfd2	TCGATGAGATATTGTGACTG
134	Mthfd2	AGATAATTAAGCGAACAGGT
135	Mthfd2	GCTTTCATGTCATTAACGTG
136	Mthfd2	CTATGTTCTCAACAAAACCA
137	Nfe2l2	TGAAGACTGAACTTTCAGCG
138	Nfe2l2	GTTCTGTTTGACACTTCCAG
139	Nfe2l2	TCAACCCGAAGCACGCTGA
140	Nfe2l2	GGTGGGATTTGAGTCTAAGG
141	Otc	CAGTCCATTGACAATTGGGA
142	Otc	CCTTCAAGCAGCTACTCCAA
143	Otc	TAGAAAGGGTCACACTTCTG
144	Otc	AAATTCAGGATCAAGCAGAA
145	Pck1	ACTGACAGACTCGCCCTATG
146	Pck1	GTGGCCGAGACTAGCGATGG
147	Pck1	CCTTTGGAAGCGGATATGGT
148	Pck1	TCGCAGATGTGGATATACTC
149	Pdcd1	CAATACAGGGATACCCACTA
150	Pdcd1	GACACACGGCGCAATGACAG
151	Pdcd1	CAGCTTGTCCAAGTGGTCGG
152	Pdcd1	GCTCAAACCATTACAGAAGG
153	Pfkm	CCTCACGGTAGAGCGAACAG
154	Pfkm	GCGCCTTGGATATGACACCC
155	Pfkm	TTAGACCAAAGACGTGACCA
156	Pfkm	CATAGACACGCTCTCCCACG
157	Pgk1	TAAGGTGCTCAACAACATGG
158	Pgk1	TCAAGAACAGAACATCCCTG
159	Pgk1	GGAAGTGCACACCGAGCCCAT
160	Pgk1	CTTCCTCTACATGAAAGCGG
161	Pgk2	GGATACCATCAGGCCGACCG
162	Pgk2	GGATGATAGACCCATTATCT
163	Pgk2	CGGGCTCACAGTTCTACGGT
164	Pgk2	GGAAGGCTTCTACTTTAGCA
165	Pkm	TTTCTCTCATGGAACCCATG
166	Pkm	TGAAATAGCACATGCCTGTG
167	Pkm	GGGCAGAGTCAATGTCCAGG
168	Pkm	CTTCCTGACTTCATGCACGT
169	Rheb	AACAAACTGAATTGTCAATG
170	Rheb	CCATATCCAACAACCTTGCCA
171	Rheb	TTCAGCTTGTAGACACAGCG
172	Rheb	TCATAGGATACCTATTATGT

Number	Gene name	Guide sequence
173	Rorc	CTTGAGTATAGTCCAGAACG
174	Rorc	GTCATCTGGGATCCACTACG
175	Rorc	TCTGGGGCACTGCAGAAACT
176	Rorc	GACAAGCAGAGGCCTCGGGT
177	Foxp3	CATACCTGATGCATGAAGTG
178	Foxp3	TCTACCCACAGGGATCAATG
179	Foxp3	AGGTCGGGACCTGCGAAGTG
180	Foxp3	GCAAGAGCTCTTGTCCATTG
181	Shmt1	TGTAGAATATCATACCAGCA
182	Shmt1	TCGGCTGGCAAATTCTCCG
183	Shmt1	CCCGGAACCTGGACTACGCA
184	Shmt1	AAGCCCATGATTCGCCCATG
185	Slc16a1	ACTACTAAGAAAGACCAAAG
186	Slc16a1	CACCAGCGATCATTACTGGA
187	Slc16a1	GACTTGCAGCCAACACCAAG
188	Slc16a1	AGGCCCTATTGGTCTCATCA
189	Slc16a7	ATTACCTCCAATGAAGCCAA
190	Slc16a7	AGAGGTACTGGATTTCGTGGA
191	Slc16a7	GCTCAGTACGCTAAACACAT
192	Slc16a7	TTCACCAACACACTACTGAT
193	Slc1a5	AATCCCTATCGATTCTCTGTG
194	Slc1a5	TACAACAGAGTCGTTGATGG
195	Slc1a5	GCGGGAGATCAATTCAACCA
196	Slc1a5	GTGGTGTGCAGCCTGATCGG
197	Slc20a1	GTAGAAAGGTTACCTTACGG
198	Slc20a1	TCAGTATCACACCGTGCACA
199	Slc20a1	CCGGAACGGCTTGATAGATG
200	Slc20a1	GCCACATATTGCCATAGTGT
201	Slc2a1	CCTGCTCATCAATCGTAACG
202	Slc2a1	TCAGCATGGAGTTCCGCCTG
203	Slc2a1	GTGTCACCTACAGCTCTACG
204	Slc2a1	CAAACATGGAACCACCGCTA
205	Sod1	CAGTATGGGGACAATACACA
206	Sod1	GACTGCTGGAAAGGACGGTG
207	Sod1	TAAGAAACATGGTGGCCCGG
208	Sod1	AAAGCGGTGTGCGTGCTGAA
209	Sod2	GGCGTTGAGATTGTTACGT
210	Sod2	ATGATCTGCGGTTAATGTG
211	Sod2	ACAAACCTGAGCCCTAAGGG
212	Sod2	CCTGCACTGAAGTTCAATGG
213	Sptlc2	GTTGTGTTTGAAGATTGAA
214	Sptlc2	TGAGAGCAATCACTTCAGGA
215	Sptlc2	AATCTCGAAGATATCCAAAG

Number	Gene name	Guide sequence
216	<a href="#">Sptlc2</a>	ACAACTATCTTGGATTTGCG
217	<a href="#">Prdx2</a>	ATCAAGCTTTCGGACTACAG
218	<a href="#">Prdx2</a>	CCTTCAGGATCAATACCCCA
219	<a href="#">Prdx2</a>	GCTAAAAGCGATGATCTCCG
220	<a href="#">Prdx2</a>	CTTCCGAAAGCTAGGCTGCG
221	<a href="#">Tsc2</a>	TGAACCACATGGCTATGACG
222	<a href="#">Tsc2</a>	CACAGGGTGATAATGAACAG
223	<a href="#">Tsc2</a>	CAGCTCCAAAGACCCTTGAG
224	<a href="#">Tsc2</a>	CTGATCCTAGCACACATGTG
225	<a href="#">Ikzf2</a>	CCTAATTGAGAGCAGCGAGG
226	<a href="#">Ikzf2</a>	GCTTGTCATGTGACTTGGCG
227	<a href="#">Ikzf2</a>	TATGAACTTAACATATGAGA
228	<a href="#">Ikzf2</a>	GGGTAAAAGAAGCTCCGCAC
229	<a href="#">Acaa2</a>	GCCCACGATGACACTATCGA
230	<a href="#">Acaa2</a>	GCTGAGGTCGTCTTGTGTGG
231	<a href="#">Acaa2</a>	CGAGGCTGGCTACTTCAATG
232	<a href="#">Acaa2</a>	CGTCCGTGTTCAAGAAAGAC
233	<a href="#">Batf</a>	AGAGATCAAACAGCTCACCG
234	<a href="#">Batf</a>	AGGACTCATCTGATGATGTG
235	<a href="#">Batf</a>	GTGGGTACTCACCAGGTGAA
236	<a href="#">Batf</a>	AGGGGGTACCTGTTTGCCAG
237	<a href="#">Atp6ap1</a>	GAGGATTTACAGCATAACGG
238	<a href="#">Atp6ap1</a>	GATATGACCCTCATGTGTGT
239	<a href="#">Atp6ap1</a>	TAGCTAGATCCACATGCAAG
240	<a href="#">Atp6ap1</a>	GTGTCATTGTAACACAGG
241	<a href="#">Tbx21</a>	AGTCTGGGTGGACATATAAG
242	<a href="#">Tbx21</a>	AGGACTACGCATTGCCCGCG
243	<a href="#">Tbx21</a>	GACCCGACCGATCGCCGCGC
244	<a href="#">Tbx21</a>	GGCTTCCAACAATGTGACCC
245	<a href="#">Acss2</a>	GCTGGGAACCTACTACCCGG
246	<a href="#">Acss2</a>	CAGAACGCCGGTGCAGCTCG
247	<a href="#">Acss2</a>	AAGGGAAAATATTCCTGAG
248	<a href="#">Acss2</a>	GCATTGTGGTCAAACATCTG
249	<a href="#">Ndufc1</a>	TTGGCAGTTGGACTGTCCGT
250	<a href="#">Ndufc1</a>	CGAAAACGAGCGCAGCACTA
251	<a href="#">Ndufc1</a>	CACGGTCGAAGTTCTATGTC
252	<a href="#">Ndufc1</a>	CAATGCCAAACCTAACTGGT
253	<a href="#">Uqcrh</a>	TGGATCTGGAGACCCCAAAG
254	<a href="#">Uqcrh</a>	GACGAACGAAAGATGCTCAC
255	<a href="#">Uqcrh</a>	AATCCTCTTCTGTCTGTGAC
256	<a href="#">Uqcrh</a>	GCTCTCTCACTGTTGTTAGG
257	<a href="#">Pgm1</a>	CATTACCGATGGACGCGCTG
258	<a href="#">Pgm1</a>	ATCATCTCTCCCCACGATCG

Number	Gene name	Guide sequence
259	Pgm1	TGGGGGTTATATCAGAGAAG
260	Pgm1	AGGCCAACTGCACAACTCG
261	Sdha	GTCAGTTACCTCAACCACAG
262	Sdha	TTCTACTCAATACCCAGTGG
263	Sdha	TGCACAGTGCAATGACACCA
264	Sdha	ACTGTGCATTACAACATGGG
265	Cers4	TTGAGAATCTTACAACCCTG
266	Cers4	CGCTTCGGCAGACTCAACGC
267	Cers4	GTTACCACCCAATGTCACAT
268	Cers4	GCGGAGCAAGTTGACGCTGT
269	Sdhb	TGCGCCATGAACATCAACGG
270	Sdhb	ACAGTATCTGCAGTCCATCG
271	Sdhb	ACCTCGAATGCAGACGTACG
272	Sdhb	TAGAAGTTACTCAAATCCTG
273	Slc38a2	CCACCAAAGCAGCTTCCACG
274	Slc38a2	CTCAAGACTGCCAACGAAGG
275	Slc38a2	GCAGTGACAATGGAAGAATG
276	Slc38a2	GAGTTGAAGATGAAATAGCG
277	Dgat2	GATCTGCCCTGTCACGCGAG
278	Dgat2	CTGGCTCAACAGATCTAAGG
279	Dgat2	AAGGCCCTATTTGGCTACGT
280	Dgat2	GTCTCGGAAGTAGCGCCACA
281	Atg3	GTAGATACATATCACAACAC
282	Atg3	GACAGGCTACCCTAGACACA
283	Atg3	GGGTGTAATCACCCCAGAAG
284	Atg3	TAACAGTTCCATGCTACAAG
285	Cox10	TCTGTCCCGGAAGCCAAATG
286	Cox10	GGGAGTGAATCCACTCACAG
287	Cox10	TATACAGGGATTGCCACACA
288	Cox10	AGTTGGCAGCACAGGATGCG
289	Kdsr	ACCATGAAGGAGCGACGGGT
290	Kdsr	ACAGTGACGTACACATTGTA
291	Kdsr	AGTGGAGAATGTCATAAAGC
292	Kdsr	GCTATTGAGTGCTACAAACA
293	Adpgk	CTCTCACGACCTCTCCAACG
294	Adpgk	ATGCTGCTTTAATTGGACAG
295	Adpgk	CCAGGTACTCTAAAATAAGG
296	Adpgk	GCTGGCCAGTATGACCAACA
297	Pgm2	CGGCCGCTTCTACATGACCG
298	Pgm2	CGCATAGACGCCATGCACGG
299	Pgm2	CAGCCAGCCATAATCCAGGA
300	Pgm2	CAGCAGCATAGGTGAGATTG
301	Atg7	TCTCCTACTCCAATCCCGTG



Number	Gene name	Guide sequence
302	Atg7	TGGGGTCCATACATCCACTG
303	Atg7	CTTAAAAGCCTCAAGTGTGT
304	Atg7	CTTGAATAAGAAGTAGGGCA
305	Pck2	TGCGTATTATGACCCGCCTG
306	Pck2	TGATTGTAACCTCCTTCGCAG
307	Pck2	AGGGTTTGGATGCTACGGCA
308	Pck2	ATGGAAGCACATACATAATG
309	Atg16l1	CATACTTACGAAGACATACG
310	Atg16l1	CGAACTGCACAAGAAGCGTG
311	Atg16l1	GAAACTGAGGAAAACACTACTG
312	Atg16l1	TGCAAGCCGAATCTGGACTG
313	Sgpp1	TGCCTAAGTAGAATCTACAT
314	Sgpp1	TGAGCAGGAACATGGCGATG
315	Sgpp1	CCTCGCCCGTCAACGAGTTG
316	Sgpp1	TGGGTGCTGGTCATGTACCT
317	Olah	AAAACCAGAACTTACGTGAG
318	Olah	TGCATGCTGTAAGACTGGCT
319	Olah	TTACAAGATCTAAATACCTG
320	Olah	ATTAATCTTTCCGGCCCACT
321	Sptssa	CAGGTACTGGTAGTAGAACC
322	Sptssa	CTGAACACGGTTCGCTCCCA
323	Sptssa	CCATCACGCAGATTCGATGC
324	Sptssa	GTACAGGGCCATCCCCACCA
325	Slc38a1	ATACTTTGGTGTGCACGCGT
326	Slc38a1	TGCATGGTGTATGAGAAGCT
327	Slc38a1	TCACCATCACCACCAACT
328	Slc38a1	AGATTGGCAGGACGGACGGG
329	Acaca	GCCATTCATTATCACTACGT
330	Acaca	AATGCATGCGATCTATCCGT
331	Acaca	TTGATTCATAGGTACCGAAG
332	Acaca	AAGCCCTTCGAACATACACC
333	Shmt2	CGGCAGATACTACGGAGGAG
334	Shmt2	AACATCCGCGTACTTGAAAG
335	Shmt2	AGCCTCATGATCGAATCATG
336	Shmt2	TAGTCGATGAGGCCAGTTTG
337	Mthfd1	ACACCAACGATAGATTCCTG
338	Mthfd1	CACTATGAATCCGTGCACAG
339	Mthfd1	GATTGCCGGAAGGCACGCGG
340	Mthfd1	GGTAGCGTCCAGTAAGAAAG
341	Gpt2	GCGGTGGAGTACGCTGTGCG
342	Gpt2	ACGCTAAGAAACGAGCGCGG
343	Gpt2	GTTCTCTGCATTATCAACCC
344	Gpt2	GGGGATGGGAATCATCACGC

Number	Gene name	Guide sequence
345	Glo1	CGATCCAGACCCTAGCACCA
346	Glo1	GCACTGCGTGAGCTCAAGGG
347	Glo1	GGATAAGAACGATATCCCCA
348	Glo1	GAGACTCAGAGTTACCACAA
349	Gls2	CGTCCGGTACTACCTCGGTG
350	Gls2	GGGGATCGGAATTACGCCAT
351	Gls2	AAAAGCAGGTCACCAAGTCG
352	Gls2	TGAGTCAGGCAGTGTCATGG
353	Pik3c3	AGCCTGTAAGAACTCAACAC
354	Pik3c3	ATACACATCCCATATAGTCA
355	Pik3c3	CTCACCAAGGCTCATCGGCA
356	Pik3c3	ATGGACCAGGCGATCTACAA
357	Cox15	AGAAAGGGTTGGCTCAACCG
358	Cox15	AGGCGGTACTGACTGACCCG
359	Cox15	GGTACATGGAATACTCACAC
360	Cox15	TAGGGTGGCGTCCAGAACAC
361	Cps1	TGAGCCTCACAAATTTCTGTCG
362	Cps1	ATGCAGACCGAATCATCACA
363	Cps1	TACAGTATTCCATGGAAGTG
364	Cps1	GTTGGTGGCATCTCGTGTCG
365	Pdk1	TTGTCCGAGAAACATAAACG
366	Pdk1	ATGGCTATGAGAACGCTAGG
367	Pdk1	TTGATAGCCTTATTGTTCCG
368	Pdk1	AAACACCATGTGATAGAGAT
369	Smox	CGAGAGTCAGAACAGCGTCG
370	Smox	CAACTCGCATGAAGCCCGAG
371	Smox	GCTCGATCTCAGGACCCCGG
372	Smox	GCCTGCTACCTTACCAACCG
373	Aldob	TATCCACAGTTGGACCAAGG
374	Aldob	AATTCCATTAGCCAGAGCAT
375	Aldob	CCGCCTGCAAAGGATAAAGG
376	Aldob	GGTCCCTATTGTTGAGCCAG
377	Ppat	ACCTTGGAATCGGACATACG
378	Ppat	ATAAGACGCCCGATGCAGAG
379	Ppat	TGATCACTCTGGGACTCGTG
380	Ppat	AGGGGTGTATGCGAGTAACT
381	Slc6a1	CACCAACATGACCAGCGCCG
382	Slc6a1	GCAGAAATACACGAGCACCC
383	Slc6a1	TACCTCTGTGGGAAAAACGG
384	Slc6a1	TCCATGTGTCCCGGTCAGGG
385	Acaa1b	AACCACTGTCCTGAATGACA
386	Acaa1b	GGCGGGAAGAAATATTCCCA
387	Acaa1b	TGTGTGCACTAGGATAACTT

Number	Gene name	Guide sequence
388	Acaa1b	GGAGCCAGAGAGATTACCTC
389	Sptlc1	AATGTGCCATAGAACCCTCG
390	Sptlc1	CCCTCCAACCCACAACATCG
391	Sptlc1	TCCTGCGTACTCTAAGAGAG
392	Sptlc1	TTTGTTCGTAGAATCCTCGCA
393	Ahcy	GCGCACCTGACAGAAGCTGT
394	Ahcy	TGTCAACGATTCTGTCACCA
395	Ahcy	TGACCCTATCATACCCTCCA
396	Ahcy	TGTGATGATTGCGGGCAAGG
397	Idh2	GGCCACCCAGAAGTACAGTG
398	Idh2	TCGAGCTGGCACGTTCAAGT
399	Idh2	TCACCGTCCATCTCCACTAC
400	Idh2	ACATCGGCTCATCGACGACA
401	Acly	GAGAGAGATTGACCCCGACG
402	Acly	AGAGCGATTTCGAGATTACCA
403	Acly	TTGTCACCTGTACACGACGG
404	Acly	GGACGAAAAGCTGAATACCG
405	NTC	AAAAAGTCCGCGATTACGTC
406	NTC	AAAACGGCTCGATCGGTGAT
407	NTC	AAAACGTAATTATACCGAGC
408	NTC	AAAATTGCACCTTCCCGGCC
409	NTC	AAACCCCGCGCGGAGCGTC
410	NTC	AAACCTAGCGTAGATTCCGGC
411	NTC	AAACGAGGCTGTTTCGTACAC
412	NTC	AAACTCATACGTAGCGAATC

**Original Doc Name: KV-LIBRARY-CSV-MAGECK**

<b>Guide name</b>	<b>Guide sequence</b>	<b>Gene name</b>
Aco1_1	CCACCGCCATTT	Aco1
Aco1_2	CATATGCTATTAC	Aco1
Aco1_3	TAGCCCACCACA	Aco1
Aco1_4	GTGTAGCACCTC	Aco1
Ahr_1	AGCTGTGCACAA	Ahr
Ahr_2	GTATAATAGACTC	Ahr
Ahr_3	TCTCCGGTAGCA	Ahr
Ahr_4	GTGGAAAGAATC	Ahr
Aldoa_1	AATGGCGAGACA	Aldoa
Aldoa_2	CCTTGCCCGGAG	Aldoa
Aldoa_3	CCACGAGACACT	Aldoa
Aldoa_4	GCCAGCATCTGC	Aldoa
Atg5_1	AAGAGTCAGCTA	Atg5
Atg5_2	AAATGTA CTGTG	Atg5
Atg5_3	CCTTCTACACTG	Atg5
Atg5_4	AAGAAAACTCAC	Atg5
Cd5l_1	GGCTGATATGAT	Cd5l
Cd5l_2	CAACGGAACGGA	Cd5l
Cd5l_3	AGCTGCAACAAG	Cd5l
Cd5l_4	ACCAAAGTGCAG	Cd5l
Arg1_1	AATAAACTTACTG	Arg1
Arg1_2	AGTATGACGTGA	Arg1
Arg1_3	AAATGACACATA	Arg1
Arg1_4	AGATGTACCAGG	Arg1
Arg2_1	CCAATGTACACA	Arg2
Arg2_2	TACACAACCAGA	Arg2
Arg2_3	TTTCCAGATACAC	Arg2
Arg2_4	GTCCACTCTGTA	Arg2
Ass1_1	TAACATCTTACCT	Ass1
Ass1_2	TGGGATCCTGGA	Ass1
Ass1_3	AAGGCACTTCCT	Ass1
Ass1_4	TGCCTTCACCTG	Ass1
Atp5a1_1	TGGTCAGAAGCG	Atp5a1
Atp5a1_2	GCTCCCGCACAG	Atp5a1
Atp5a1_3	ACTGGGCGTGTG	Atp5a1
Atp5a1_4	CCAACAGCTCCT	Atp5a1
Atp5b_1	CTGCTGGCCCCA	Atp5b
Atp5b_2	GCGCTTACCAGG	Atp5b
Atp5b_3	AAATACAGAGTA	Atp5b
Atp5b_4	CCCACCCTAGCC	Atp5b
Slc7a1_1	GCCATGGCATAG	Slc7a1
Slc7a1_2	CACAAACGTGAA	Slc7a1

Guide name	Guide sequence	Gene name
Slc7a1_3	TGACGTGAGAAC	Slc7a1
Slc7a1_4	CCAGGTCCTTCA	Slc7a1
Bcl6_1	TCTCCACGACCT	Bcl6
Bcl6_2	ATGTTGCTGTGA	Bcl6
Bcl6_3	AATGCACCCTTG	Bcl6
Bcl6_4	GAGGGAAGGCA	Bcl6
Cox7a1_1	GACCTCCCAGTA	Cox7a1
Cox7a1_2	AAGCCACTTAGA	Cox7a1
Cox7a1_3	TGGTAGATGAGC	Cox7a1
Cox7a1_4	AAAAGACCGGAC	Cox7a1
Cpt1a_1	CACATTGTCTGTG	Cpt1a
Cpt1a_2	CATACTGCTGTA	Cpt1a
Cpt1a_3	ACCTTGGACCCA	Cpt1a
Cpt1a_4	ACGTTGGACGAA	Cpt1a
Dhfr_1	GACATGGTTTGG	Dhfr
Dhfr_2	AACCTCAGAGAA	Dhfr
Dhfr_3	TCGCCGTGTCCC	Dhfr
Dhfr_4	CAGCCCGGCCAA	Dhfr
Fasl_1	AGGACCACAACA	Fasl
Fasl_2	CTTCACTCCAGA	Fasl
Fasl_3	CCTCTGAAAAAA	Fasl
Fasl_4	GGAACTGGCAGA	Fasl
Fasn_1	CTACCAGGCCAT	Fasn
Fasn_2	TGTCTCCGAAAA	Fasn
Fasn_3	TTGGTGGAGCCA	Fasn
Fasn_4	ACTGGCAATCTG	Fasn
Fbp1_1	CATGGCAAGGAC	Fbp1
Fbp1_2	CACAAGAACACA	Fbp1
Fbp1_3	TGGCTCAACCAA	Fbp1
Fbp1_4	AACATCTACAGC	Fbp1
G6pdx_1	AGAGGTGGAAAC	G6pdx
G6pdx_2	TGCCCGCTCACG	G6pdx
G6pdx_3	ATGACCCCACAG	G6pdx
G6pdx_4	AGAGATGGTCCA	G6pdx
Gapdh_1	GCTGTGGCGTGA	Gapdh
Gapdh_2	AAACAGGCCCCAC	Gapdh
Gapdh_3	TGCCATTTGCAG	Gapdh
Gapdh_4	GGCCGGTGCTGA	Gapdh
Gata3_1	CTACTACGAAAA	Gata3
Gata3_2	CCGGGTTCGGAT	Gata3
Gata3_3	GCAGCTGCACCT	Gata3
Gata3_4	TCCAAGACGTCC	Gata3
Gclc_1	TGTGCCGGTCCT	Gclc

Guide name	Guide sequence	Gene name
Gclc_2	CAATATGAGGAA	Gclc
Gclc_3	AGAAACATCCGG	Gclc
Gclc_4	TGTAGATGATAG	Gclc
Gls_1	CGACGCGTTCCGG	Gls
Gls_2	TGTACATCGCTA	Gls
Gls_3	GATTGCGAACAT	Gls
Gls_4	ATATAACTCATCC	Gls
Got1_1	GATCCCCGCAAG	Got1
Got1_2	GTTGGTGATGAT	Got1
Got1_3	AGACCTAGAGAA	Got1
Got1_4	CATTCGGCCCTA	Got1
Got2_1	TGGAGGTCCCAT	Got2
Got2_2	TTTCTGCCCAAAC	Got2
Got2_3	CATCCTCCTCAC	Got2
Got2_4	AGCTCACCTTCC	Got2
Hif1a_1	TGAACATCAAGT	Hif1a
Hif1a_2	ATAACGTGAACA	Hif1a
Hif1a_3	GTGAGAAAACCTT	Hif1a
Hif1a_4	AGTAAGAAAATTT	Hif1a
Hk1_1	CCGACAATCCAA	Hk1
Hk1_2	CGTAGCCGCCAT	Hk1
Hk1_3	GGATCTTTACCA	Hk1
Hk1_4	CTCCCGGGATTA	Hk1
Hk2_1	ATTCCCGAGGAC	Hk2
Hk2_2	GGAGATGCGTCA	Hk2
Hk2_3	ATCCGGAGTTGA	Hk2
Hk2_4	GGAGTGGCACAC	Hk2
ldh1_1	CCCAGCCTGTCA	ldh1
ldh1_2	GGCTATAAAGAA	ldh1
ldh1_3	AATCAAGTTGAA	ldh1
ldh1_4	TGGTACATGACT	ldh1
Il2ra_1	GTGTCTGTATGA	Il2ra
Il2ra_2	ATCTTGCAGATG	Il2ra
Il2ra_3	GAGAGGTTTCCG	Il2ra
Il2ra_4	GAATCTTCATGTT	Il2ra
Ldha_1	CAAGCTGGTCAT	Ldha
Ldha_2	GTTGCAATCTGG	Ldha
Ldha_3	GGAGAACATGGC	Ldha
Ldha_4	GTCATGGAAGAC	Ldha
Slc3a2_1	G TTCACCGGCTT	Slc3a2
Slc3a2_2	CGCCCGAACGAT	Slc3a2
Slc3a2_3	TATCACCAAGAA	Slc3a2
Slc3a2_4	GTACTGAATCCC	Slc3a2

Guide name	Guide sequence	Gene name
Mdh1_1	GTCAGCGCCATC	Mdh1
Mdh1_2	GTCCATAGATGT	Mdh1
Mdh1_3	GACATTCTTTACA	Mdh1
Mdh1_4	GTCTTTGGGAAA	Mdh1
Mthfd2_1	TCGATGAGATAT	Mthfd2
Mthfd2_2	AGATAATTAAGCC	Mthfd2
Mthfd2_3	GCTTTCATGTCA	Mthfd2
Mthfd2_4	CTATGTTCTCAAC	Mthfd2
Nfe2l2_1	TGAAGACTGAAC	Nfe2l2
Nfe2l2_2	GTTCTGTTTGAC	Nfe2l2
Nfe2l2_3	TTCAACCCGAAG	Nfe2l2
Nfe2l2_4	GGTGGGATTTGA	Nfe2l2
Otc_1	CAGTCCATTGAC	Otc
Otc_2	CCTTCAAGCAGC	Otc
Otc_3	TAGAAAGGGTCA	Otc
Otc_4	AAATTCAGGATC	Otc
Pck1_1	ACTGACAGACTC	Pck1
Pck1_2	GTGGCCGAGACT	Pck1
Pck1_3	CCTTTGGAAGCG	Pck1
Pck1_4	TCGCAGATGTGG	Pck1
Pdcd1_1	CAATACAGGGAT	Pdcd1
Pdcd1_2	GACACACGGCGC	Pdcd1
Pdcd1_3	CAGCTTGTCCAA	Pdcd1
Pdcd1_4	GCTCAAACCATT	Pdcd1
Pfkm_1	CCTCACGGTAGA	Pfkm
Pfkm_2	GCGCCTTGGATA	Pfkm
Pfkm_3	TTAGACCAAAGA	Pfkm
Pfkm_4	CATAGACACGCT	Pfkm
Pgk1_1	TAAGGTGCTCAA	Pgk1
Pgk1_2	TCAAGAACAGAA	Pgk1
Pgk1_3	GGACTGCACACC	Pgk1
Pgk1_4	CTTCCTCTACATC	Pgk1
Pgk2_1	GGATACCATCAG	Pgk2
Pgk2_2	GGATGATAGACC	Pgk2
Pgk2_3	CGGGCTCACAGT	Pgk2
Pgk2_4	GGAAGGCTTCTA	Pgk2
Pkm_1	TTTCTCTCATGG	Pkm
Pkm_2	TGAAATAGCACA	Pkm
Pkm_3	GGGCAGAGTCAA	Pkm
Pkm_4	CTTCCTGACTTC	Pkm
Rheb_1	AACAACTGAATT	Rheb
Rheb_2	CCATATCCAACA	Rheb
Rheb_3	TTCAGCTTGTAG	Rheb

Guide name	Guide sequence	Gene name
Rheb_4	TCATAGGATACC	Rheb
Rorc_1	CTTGAGTATAGT	Rorc
Rorc_2	GTCATCTGGGAT	Rorc
Rorc_3	TCTGGGGCACTG	Rorc
Rorc_4	GACAAGCAGAGG	Rorc
Foxp3_1	CATACCTGATGC	Foxp3
Foxp3_2	TCTACCCACAGG	Foxp3
Foxp3_3	AGGTCGGGACCT	Foxp3
Foxp3_4	GCAAGAGCTCTT	Foxp3
Shmt1_1	TGTAGAATATCAT	Shmt1
Shmt1_2	TCGGCTGGCAAA	Shmt1
Shmt1_3	CCCGGAACCTGG	Shmt1
Shmt1_4	AAGCCCATGATT	Shmt1
Slc16a1_1	ACTACTAAGAAAC	Slc16a1
Slc16a1_2	CACCAGCGATCA	Slc16a1
Slc16a1_3	GACTTGCAGCCA	Slc16a1
Slc16a1_4	AGGCCCTATTGG	Slc16a1
Slc16a7_1	ATTACCTCCAATC	Slc16a7
Slc16a7_2	AGAGGTAAGGGA	Slc16a7
Slc16a7_3	GCTCAGTACGCT	Slc16a7
Slc16a7_4	TTCACCAACACAC	Slc16a7
Slc1a5_1	AATCCCTATCGA	Slc1a5
Slc1a5_2	TACAACAGAGTC	Slc1a5
Slc1a5_3	GCGGGAGATCAA	Slc1a5
Slc1a5_4	GTGGTGTGCAGC	Slc1a5
Slc20a1_1	GTAGAAAGGTTA	Slc20a1
Slc20a1_2	TCAGTATCACAC	Slc20a1
Slc20a1_3	CCGGAACGGCTT	Slc20a1
Slc20a1_4	GCCACATATTGC	Slc20a1
Slc2a1_1	CCTGCTCATCAA	Slc2a1
Slc2a1_2	TCAGCATGGAGT	Slc2a1
Slc2a1_3	GTGTCACCTACA	Slc2a1
Slc2a1_4	CAAACATGGAAC	Slc2a1
Sod1_1	CAGTATGGGGAC	Sod1
Sod1_2	GACTGCTGGAAA	Sod1
Sod1_3	TAAGAAACATGG	Sod1
Sod1_4	AAAGCGGTGTGC	Sod1
Sod2_1	GCGGTTGAGATT	Sod2
Sod2_2	ATGATCTGCGCG	Sod2
Sod2_3	ACAAACCTGAGC	Sod2
Sod2_4	CCTGCACTGAAG	Sod2
Sptlc2_1	GTTGTGTTTGAAC	Sptlc2
Sptlc2_2	TGAGAGCAATCA	Sptlc2



Guide name	Guide sequence	Gene name
Sptlc2_3	AATCTCGAAGAT	Sptlc2
Sptlc2_4	ACAACATCTTGC	Sptlc2
Prdx2_1	ATCAAGCTTTTCG	Prdx2
Prdx2_2	CCTTCAGGATCA	Prdx2
Prdx2_3	GCTAAAAGCGAT	Prdx2
Prdx2_4	CTTCCGAAAGCT	Prdx2
Tsc2_1	TGAACCACATGG	Tsc2
Tsc2_2	CACAGGGTGATA	Tsc2
Tsc2_3	CAGCTCCAAAGA	Tsc2
Tsc2_4	CTGATCCTAGCA	Tsc2
Ikzf2_1	CCTAATTGAGAG	Ikzf2
Ikzf2_2	GCTTGTCATGTG	Ikzf2
Ikzf2_3	TATGAACTTAACA	Ikzf2
Ikzf2_4	GGGTAAAAGAAG	Ikzf2
Acaa2_1	GCCCACGATGAC	Acaa2
Acaa2_2	GCTGAGGTCGTC	Acaa2
Acaa2_3	CGAGGCTGGCTA	Acaa2
Acaa2_4	CGTCCGTGTTCA	Acaa2
Batf_1	AGAGATCAAACA	Batf
Batf_2	AGGACTCATCTG	Batf
Batf_3	GTGGGTACTIONAC	Batf
Batf_4	AGGGGGTACCTC	Batf
Atp6ap1_1	GAGGATTTCACAC	Atp6ap1
Atp6ap1_2	GATATGACCCTC	Atp6ap1
Atp6ap1_3	TAGCTAGATCCA	Atp6ap1
Atp6ap1_4	GTGTCATTGTAA	Atp6ap1
Tbx21_1	AGTCTGGGTGGA	Tbx21
Tbx21_2	AGGACTACGCAT	Tbx21
Tbx21_3	GACCCGACCGAT	Tbx21
Tbx21_4	GGCTTCCAACAA	Tbx21
Acss2_1	GCTGGGAACCTA	Acss2
Acss2_2	CAGAACGCCGGT	Acss2
Acss2_3	AAGGGAAAATAT	Acss2
Acss2_4	GCATTGTGGTCA	Acss2
Ndufc1_1	TTGGCAGTTGGA	Ndufc1
Ndufc1_2	CGAAAACGAGCG	Ndufc1
Ndufc1_3	CACGGTCGAAGT	Ndufc1
Ndufc1_4	CAATGCCAAACC	Ndufc1
Uqcrh_1	TGGATCTGGAGA	Uqcrh
Uqcrh_2	GACGAACGAAAG	Uqcrh
Uqcrh_3	AATCCTCTTCTGT	Uqcrh
Uqcrh_4	GCTCTCTCACTG	Uqcrh
Pgm1_1	CATTACCGATGG	Pgm1

Guide name	Guide sequence	Gene name
Pgm1_2	ATCATCTCTCCCC	Pgm1
Pgm1_3	TGGGGGTTATAT	Pgm1
Pgm1_4	AGGCCAACTGCA	Pgm1
Sdha_1	GTCAGTTACCTC	Sdha
Sdha_2	TTCTACTCAATAC	Sdha
Sdha_3	TGCACAGTGCAA	Sdha
Sdha_4	ACTGTGCATTAC	Sdha
Cers4_1	TTGAGAATCTTAC	Cers4
Cers4_2	CGCTTCGGCAGA	Cers4
Cers4_3	GTTACCACCCAA	Cers4
Cers4_4	GCGGAGCAAGTT	Cers4
Sdhb_1	TGCGCCATGAAC	Sdhb
Sdhb_2	ACAGTATCTGCA	Sdhb
Sdhb_3	ACCTCGAATGCA	Sdhb
Sdhb_4	TAGAAGTTACTC	Sdhb
Slc38a2_1	CCACCAAAGCAG	Slc38a2
Slc38a2_2	CTCAAGACTGCC	Slc38a2
Slc38a2_3	GCAGTGACAATG	Slc38a2
Slc38a2_4	GAGTTGAAGATG	Slc38a2
Dgat2_1	GATCTGCCCTGT	Dgat2
Dgat2_2	CTGGCTCAACAG	Dgat2
Dgat2_3	AAGGCCCTATTT	Dgat2
Dgat2_4	GTCTCGGAAGTA	Dgat2
Atg3_1	GTAGATACATAT	Atg3
Atg3_2	GACAGGCTACCC	Atg3
Atg3_3	GGGTGTAATCAC	Atg3
Atg3_4	TAACAGTTCCAT	Atg3
Cox10_1	TCTGTCCCGGAA	Cox10
Cox10_2	GGGAGTGAATCC	Cox10
Cox10_3	TATACAGGGATT	Cox10
Cox10_4	AGTTGGCAGCAC	Cox10
Kdsr_1	ACCATGAAGGAG	Kdsr
Kdsr_2	ACAGTGACGTAC	Kdsr
Kdsr_3	AGTGGAGAATGT	Kdsr
Kdsr_4	GCTATTGAGTGC	Kdsr
Adpgk_1	CTCTCACGACCT	Adpgk
Adpgk_2	ATGCTGCTTTAAT	Adpgk
Adpgk_3	CCAGGTACTION	Adpgk
Adpgk_4	GCTGGCCAGTAT	Adpgk
Pgm2_1	CGGCCGCTTCTA	Pgm2
Pgm2_2	CGCATAGACGCC	Pgm2
Pgm2_3	CAGCCAGCCATA	Pgm2
Pgm2_4	CAGCAGCATAGG	Pgm2

Guide name	Guide sequence	Gene name
Atg7_1	TCTCCTACTCCA	Atg7
Atg7_2	TGGGGTCCATAC	Atg7
Atg7_3	CTTAAAAGCCTC	Atg7
Atg7_4	CTTGAATAAGAAC	Atg7
Pck2_1	TGCGTATTATGA	Pck2
Pck2_2	TGATTGTA ACTCC	Pck2
Pck2_3	AGGGTTTGGATG	Pck2
Pck2_4	ATGGAAGCACAT	Pck2
Atg16l1_1	CATACTTACGAA	Atg16l1
Atg16l1_2	CGAACTGCACAA	Atg16l1
Atg16l1_3	GAAACTGAGGAA	Atg16l1
Atg16l1_4	TGCAAGCCGAAT	Atg16l1
Sgpp1_1	TGCCTAAGTAGA	Sgpp1
Sgpp1_2	TGAGCAGGAACA	Sgpp1
Sgpp1_3	CCTCGCCCGTCA	Sgpp1
Sgpp1_4	TGGGTGCTGGTC	Sgpp1
Olah_1	AAAACCAGAACT	Olah
Olah_2	TGCATGCTGTAA	Olah
Olah_3	TTACAAGATCTAA	Olah
Olah_4	ATTAATCTTTCGG	Olah
Sptssa_1	CAGGTA CTGGTA	Sptssa
Sptssa_2	CTGAACACGGTT	Sptssa
Sptssa_3	CCATCACGCAGA	Sptssa
Sptssa_4	GTACAGGGCCAT	Sptssa
Slc38a1_1	ATACTTTGGTGT	Slc38a1
Slc38a1_2	TGCATGGTGTAT	Slc38a1
Slc38a1_3	TCACCATCACCA	Slc38a1
Slc38a1_4	AGATTGGCAGGA	Slc38a1
Acaca_1	GCCATTCATTATC	Acaca
Acaca_2	AATGCATGCGAT	Acaca
Acaca_3	TTGATTCATAGG	Acaca
Acaca_4	AAGCCCTTCGAA	Acaca
Shmt2_1	CGGCAGATACTA	Shmt2
Shmt2_2	AACATCCGCGTA	Shmt2
Shmt2_3	AGCCTCATGATC	Shmt2
Shmt2_4	TAGTCGATGAGG	Shmt2
Mthfd1_1	ACACCAACGATA	Mthfd1
Mthfd1_2	CACTATGAATCCC	Mthfd1
Mthfd1_3	GATTGCCGGAAG	Mthfd1
Mthfd1_4	GGTAGCGTCCAG	Mthfd1
Gpt2_1	GCGGTGGAGTAC	Gpt2
Gpt2_2	ACGCTAAGAAAC	Gpt2
Gpt2_3	GTTCTCTGCATT	Gpt2

Guide name	Guide sequence	Gene name
Gpt2_4	GGGGATGGGAAT	Gpt2
Glo1_1	CGATCCAGACCC	Glo1
Glo1_2	GCACTGCGTGAG	Glo1
Glo1_3	GGATAAGAACGA	Glo1
Glo1_4	GAGACTCAGAGT	Glo1
Gls2_1	CGTCCGGTACTA	Gls2
Gls2_2	GGGGATCGGAAT	Gls2
Gls2_3	AAAAGCAGGTCA	Gls2
Gls2_4	TGAGTCAGGCAG	Gls2
Pik3c3_1	AGCCTGTAAGAA	Pik3c3
Pik3c3_2	ATACACATCCCA	Pik3c3
Pik3c3_3	CTCACCAAGGCT	Pik3c3
Pik3c3_4	ATGGACCAGGCC	Pik3c3
Cox15_1	AGAAAGGGTTGG	Cox15
Cox15_2	AGGCGGTACTGA	Cox15
Cox15_3	GGTACATGGAAT	Cox15
Cox15_4	TAGGGTGGCGTC	Cox15
Cps1_1	TGAGCCTCACAA	Cps1
Cps1_2	ATGCAGACCGAA	Cps1
Cps1_3	TACAGTATTCCAT	Cps1
Cps1_4	GTTGGTGGCATC	Cps1
Pdk1_1	TTGTCGCAGAAA	Pdk1
Pdk1_2	ATGGCTATGAGA	Pdk1
Pdk1_3	TTGATAGCCTTAT	Pdk1
Pdk1_4	AAACACCATGTG	Pdk1
Smox_1	CGAGAGTCAGAA	Smox
Smox_2	CAACTCGCATGA	Smox
Smox_3	GCTCGATCTCAG	Smox
Smox_4	GCCTGCTACCTT	Smox
Aldob_1	TATCCACAGTTG	Aldob
Aldob_2	AATTCCATTAGCC	Aldob
Aldob_3	CCGCCTGCAAAG	Aldob
Aldob_4	GGTCCCTATTGT	Aldob
Ppat_1	ACCTTGGAATCG	Ppat
Ppat_2	ATAAGACGCCCG	Ppat
Ppat_3	TGATCACTCTGG	Ppat
Ppat_4	AGGGGTGTATGC	Ppat
Slc6a1_1	CACCAACATGAC	Slc6a1
Slc6a1_2	GCAGAAATACAC	Slc6a1
Slc6a1_3	TACCTCTGTGGG	Slc6a1
Slc6a1_4	TCCATGTGTCCC	Slc6a1
Acaa1b_1	AACCACTGTCCT	Acaa1b
Acaa1b_2	GGCGGGAAGAA	Acaa1b

Guide name	Guide sequence	Gene name
Acaa1b_3	TGTGTGCACTAG	Acaa1b
Acaa1b_4	GGAGCCAGAGAC	Acaa1b
Sptlc1_1	AATGTGCCATAG	Sptlc1
Sptlc1_2	CCCTCCAACCCA	Sptlc1
Sptlc1_3	TCCTGCGTACTC	Sptlc1
Sptlc1_4	TTTGTCGTAGAA	Sptlc1
Ahcy_1	GCGCACCTGACA	Ahcy
Ahcy_2	TGTCAACGATTC	Ahcy
Ahcy_3	TGACCCTATCAT	Ahcy
Ahcy_4	TGTGATGATTGC	Ahcy
Idh2_1	GGCCACCCAGAA	Idh2
Idh2_2	TCGAGCTGGCAC	Idh2
Idh2_3	TCACCGTCCATC	Idh2
Idh2_4	ACATCGGCTCAT	Idh2
Acly_1	GAGAGAGATTGA	Acly
Acly_2	AGAGCGATTCGA	Acly
Acly_3	TTGTCACCTGTAC	Acly
Acly_4	GGACGAAAAGCT	Acly
BRDN0000737505	AAAAAGTCCGCGA	NTC
BRDN0000737693	AAAACGGCTCGAT	NTC
BRDN0000737637	AAAACGTAATTATA	NTC
BRDN0000738185	AAAATTGCACCTTC	NTC
BRDN0000737801	AAACCCCGCGCG	NTC
BRDN0000737467	AAACCTAGCGTAG	NTC
BRDN0000737848	AAACGAGGCTGTT	NTC
BRDN0000737609	AAACTCATACGTAG	NTC

<b>Gene family/pathway</b>	<b>Gene (mouse)</b>
<b>Transporters</b>	Slc20a1 Slc2a1 Slc16a1 Slc16a7 Slc1a5 Slc7a1 Slc38a1 Slc38a2 Slc3a2 Slc6a1 Ahr
<b>Arginine metabolism/Urea cycle</b>	Ass1 Otc Arg1 Arg2
<b>Glycolysis</b>	Hk1 Hk2 Gapdh Pgk1 Pgk2 Ldha Pkm
<b>TCA cycle</b>	Idh2 Pdk1 Aco1 Acy Idh1 Mdh1 Pck1 Pck2
<b>PPP</b>	g6pdx Aldoa Aldob Fbp1 Pfkfb3 Pgm1

	Pgm2
<b>Fatty acid synthesis/lipid metabolism</b>	Acaca Fasn Cers4 Acaa1b Cpt1a Cd5l Mecr Acss2 Olah Mecr Acaa2 Dgat2
<b>Oxidative Stress</b>	Prdx2 Glo1 Hif1a Adpgk Nfe2l2 Sod1 Sod2
<b>Sphingolipid metabolism</b>	Sptlc2 Sptssa Kdsr Sgpp1 Sphk1 Sptlc1
<b>Carbon metabolism</b>	Mthfd1 Mthfd2 Dhfr Ancy Shmt1 Shmt2
<b>Glutamine metabolism</b>	Got1 Got2 Gls Gls2

	Gclc Gpt2 Cps1 Ppat
<b>Autophagy</b>	Atg3 Atg5 Atg7 Atg16l1 Pik3c3
<b>OXPHOS/ ATP production</b>	Sdha Sdhb Cox7a1 Cox10 Cox11 Cox15 Atp6ap1 Ndufc1 Atp5a1 Atp5b Uqcrrh
<b>Biological Controls</b>	Batf Fasl Bcl6 Tbx21 Gata3 Rorc Il2ra Ikzf2 Foxp3
<b>Misc</b>	Smox pdcd1
<b>Controls</b>	Tsc2 rheb NTCs (multiple)