Library Number	RMK004
Library Name	SLC Transporter Library
Old Document Name	190603_SLC (Brie)
Library Purpose	CRISPR/Cas9 Knockout of genes from solute carrier transporter genes in mouse T cells
Location	SLC screen box, -20 freezer in B3301
Designer Name	Ayaka Sugiura
Designing Date	2019-06-03
Design Reference	Mouse CRISPR Knockout Pooled Library (Brie) (Addgene#73632) and mouse GeCKOv2 libraries
Usage Reference	Ayaka Sugiura

Species	Mouse (Mus musculus)
Total Gene #	362
Total Target #	1468
Gene Group	
1. Negative Controls	20
2. Positive Controls	n/a
3. SLC Gene	362
Target Number	
1. Negative Controls	20*1=20
2. Positive Controls	n/a
3. SLC Gene	362*4=1448

Note: Target selected from KEGG pathways

Number	Target gene	sgRNA sequence
1	BRDN0000737412	AACGGGCGCAATACCCTTTT
2	BRDN0000737434	AAACTCCCGTGTCAACCGAT
3	BRDN0000737467	AAACCTAGCGTAGATTCGGC
4	BRDN0000737483	AACCGTACTGCGAGGAGCAT
5	BRDN0000737505	AAAAAGTCCGCGATTACGTC
6	BRDN0000737516	AACGCCCCGGATTTCGTTGA
7	BRDN0000737528	AACCCCGGCTGTCATCGCCG
8	BRDN0000737609	AAACTCATACGTAGCGAATC
9	BRDN0000737611	AACCAGCATTTGACCGCGCT
10	BRDN0000737637	AAAACGTAATTATACCGAGC
11	BRDN0000737693	AAAACGGCTCGATCGGTGAT
12	BRDN0000737727	AACCGGCTGCGCGTTTGCAA
13	BRDN0000737777	AACATGTTAAGTCGCGTTAT
14	BRDN0000737801	AAACCCCCGCGCGGAGCGTC
15	BRDN0000737844	AACGGCTGCGCCCGCGGCAA
16	BRDN0000737848	AAACGAGGCTGTTCGTACAC
17	BRDN0000737872	AACCTCGTCTCATGTACGAA
18	BRDN0000738185	AAAATTGCACCTTCCCGGCC
19	BRDN0000738228	AACCCGCCGGAACAATCAGC
20	BRDN0000738254	AAAGACGTGCATTCAGCGAG
21	Slc10a1	TACAGCAAAGGAATCTACGA
22	Slc10a1	TTAACCCTCGGTCCTACCTG
23	Slc10a1	AGGACGTAGGGTACATAGTG
24	Slc10a1	GAGGGGCATGATACCGTACT
25	Slc10a2	CTATTGGATAGATGGCGACA
26	Slc10a2	GTTGCTCTCAGGTACTACGC
27	Slc10a2	TAGGACATATAAAGAGACCA
28	Slc10a2	GCTCACCATCCTCTTAGCCA
29	Slc10a3	CTGTTCATCAGCCTACCATG
30	Slc10a3	GTGATCTCTAGCCAATACAC
31	Slc10a3	TGGTGTTGAGAGCAGAAGGG
32	Slc10a3	TGAGAGTGGTAGGAAACCAG
33	Slc10a4	AAGCATCGGCTTTAGCCCCG
34	Slc10a4	CATGTCGCCGTCTACCAGCA
35	Slc10a4	CTCACCCTGTCTCCCAACGC
36	Slc10a4	AGGCACGGCTGTAGATCCAG
37	Slc10a5	TAGACACAATCTTTAACACA
38	Slc10a5	ACCCCAAGAAGTATTGGCAA
39	Slc10a5	GGATCATCGATAAGACAAGC
40	Slc10a5	GTCAACCTGAAGACTTTCCC
41	Slc10a6	TGCTCTGATACGGAATGACG
42	Slc10a6	CTGTGACATGGCCGACCAAG

Number	Target gene	sgRNA sequence
43	Slc10a6	CAGTAACTGCCACCACCAGG
44	Slc10a6	GAAGGTGAGAACATTAGAGA
45	Slc10a7	CCGTCGGTCGGAGTGAACGG
46	Slc10a7	GTTGAAGAATATCGTTGCGA
47	Slc10a7	GAAGAAGCCACCATTTGGTG
48	Slc10a7	AACTGCCTTGGTTAAAATCA
49	Slc11a1	GGGTGTGCTACCACATACTG
50	Slc11a1	GAGAAGTAGACAGAACCCGC
51	Slc11a1	CCTAGCATGATACCGTCCAG
52	Slc11a1	GAATGGGGATCTTCTCACTC
53	Slc11a2	ATGTCACCGTCAGTATCCCA
54	Slc11a2	AAACACAAAGTGTCTGCGA
55	Slc11a2	TGAGAAAATCCCCATTCCTG
56	Slc11a2	CCTTGACTAAGGCAGAATGC
57	Slc12a1	CATCATCGGTTCCATCACCG
58	Slc12a1	ACAAACGGAGTGGTGCGAGG
59	Slc12a1	GTGGGTTATATCCAAGAGAG
60	Slc12a1	CCATGGCTATCACAAAGTG
61	Slc12a2	CGGTTTCCGAGAACGCCGGG
62	Slc12a2	AAACGTCCCTATGACGAAGT
63	Slc12a2	GTTAAGATGTAACCACGAAG
64	Slc12a2	TCCGACAACATACATAGCAA
65	Slc12a3	AACCTGGTACCCGACTGGAG
66	Slc12a3	CGGTTACAACACCATAGACG
67	Slc12a3	TGTGGTCTTCCACCTCGTTG
68	Slc12a3	CACAGGCTAGCCCTTCGCAG
69	Slc12a4	AGCAAACGGTGAACCGACGT
70	Slc12a4	GGTGGCGCTTGACATGTCAT
71	Slc12a4	GTTACTCACGGAAACACGGG
72	Slc12a4	CCCAGAAGTCTATCCCAGTG
73	Slc12a5	CCAAAGGGGTGATTGTCGAG
74	Slc12a5	AGCCATGGCGAGACAGCGTG
75	Slc12a5	TGGATTACAGAGCCTCACAG
76	Slc12a5	GCAGGATCTCGATCGTGCCA
77	Slc12a6	AATCCCCAGGATGTTACGGA
78	Slc12a6	AACTATACAAATCTGACACA
79	Slc12a6	AATGGGGGGATGGTATCCGT
80	Slc12a6	CAAGATCGACACAATTACAC
81	Slc12a7	AATGAAAGATGTAGTCACGA
82	Slc12a7	AACAACGTTACTGAGATACA
83	Slc12a7	TGGTCATGGAAAGGCCAACG
84	Slc12a7	AGCAGATGAACATCAGCGCG

Number	Target gene	sgRNA sequence
85	Slc12a8	CATCTGCCCACCAAGCACCG
86	Slc12a8	CAGTGAAGAATGACTCCCCG
87	Slc12a8	GAAAGGGCCAAATAAAACAC
88	Slc12a8	CCAGTTCCTCTATTGGCTGG
89	Slc12a9	TAGATGCCGATCAACACGAG
90	Slc12a9	GCCATGCCGGTGTGGCACGG
91	Slc12a9	GCTCTTCTCACCGCACGAGG
92	Slc12a9	AAACACGACTATGCTAAACA
93	Slc13a1	AACATGGGGAACATTAACCC
94	Slc13a1	TTGAATCTGTAACATAACCC
95	Slc13a1	AAGAATTAGAGCAACCGGGA
96	Slc13a1	GGTGGGCTGACAACAATCAC
97	Slc13a2	TACACCACAGCAGCGCCATG
98	Slc13a2	ACCCCCGACGAACAATATGT
99	Slc13a2	GGGTGTGGTACCCGTCAGGG
100	Slc13a2	GCTAGCACGGACTCACAGGG
101	Slc13a3	AGTTTCTTGCCAGTTCGGAA
102	Slc13a3	TCCAGAGCCAGCCCACCAGT
103	Slc13a3	GGCTAAAGCGGTGATCCAGG
104	Slc13a3	CCACCGTACCTTGGGCGGCA
105	Slc13a4	AAACAACAGACAGACGTCCA
106	Slc13a4	GACGGTGCTGTGGTTTACCC
107	Slc13a4	GGTGGTCAGGCCACCAATGG
108	Slc13a4	CTCAGACACCCAGTACACAG
109	Slc13a5	GATAGCCGCCAATACAGCTG
110	Slc13a5	GGGTCCCGTCCCGGTCAAGG
111	Slc13a5	AGTCCAGAACCTTCAAAAGT
112	Slc13a5	AAGAAGGTGTGTTTACCGTG
113	Slc14a1	AAACGTATTGTAGTGTCCTG
114	Slc14a1	TCATAGACATAGCAGATACA
115	Slc14a1	AGGAGAGCAGGATAGCACAT
116	Slc14a1	GTTGCTGACAAACACCACCT
117	Slc14a2	GTCCCAGCAATCGTCCACCA
118	Slc14a2	GAGTACCATCTTCGCCAAGT
119	Slc14a2	CAGCAAAGTCACCTACCCGG
120	Slc14a2	ACTCACAAAGAGCTCCACTG
121	Slc15a1	TTGTCCAATCGTGTAGACGA
122	Slc15a1	GAAGTAAGGCATATCCCAAG
123	Slc15a1	CCACCAAACGCAGACACACA
124	Slc15a1	CTGGGACGACAATCTCTCCA
125	Slc15a2	AGGAGGTATCAAACCCTGTG
126	Slc15a2	ACATTCCAAAGCGACAACAT

Number	Target gene	sgRNA sequence
127	Slc15a2	TATCGGCTGATCTCCAAGTG
128	Slc15a2	CTGATGGACTCCACCAAGAG
129	Slc15a3	GGTGGTGAGCAACAAGCCAG
130	Slc15a3	CAGCAACACCAAGTAGAGGG
131	Slc15a3	CAGAACATCAGCTTCCTATG
132	Slc15a3	CAACAAAGAGATGTTAGGGT
133	Slc15a4	GCGTGGAGGGCCGTTCACAG
134	Slc15a4	GACACGACGCTGACCCGTTG
135	Slc15a4	TATCACCACCACCCATCACA
136	Slc15a4	CCAATTGAAAAATCTCCGAG
137	Slc15a5	CAAACGCCCTGGCGATCGTC
138	Slc15a5	ACTTACTCATGCACGCTGAC
139	Slc15a5	ATGGCGTTCATTAGCGCAAT
140	Slc15a5	GGTTCTCTGGCCGATAGATC
141	Slc16a1	ACTACTAAGAAAGACCAAAG
142	Slc16a1	CACCAGCGATCATTACTGGA
143	Slc16a1	GACTTGCAGCCAACACCAAG
144	Slc16a1	AGGCCCTATTGGTCTCATCA
145	Slc16a10	TGGCATCCAGAACGCCTACG
146	Slc16a10	GCCACGTCGGAGACATCCGA
147	Slc16a10	GAGGTGCTCTTCATGTGCAT
148	Slc16a10	TGAAGCTCTTTAACACGCTG
149	Slc16a11	TTCGTTCAAAGTGCTCCGCG
150	Slc16a11	CTACCGCCAAGACCCGACGG
151	Slc16a11	GCGGACCCAAATGAACGTAG
152	Slc16a11	GCCAGCCGAAAGTATCAAGG
153	Slc16a12	CAACAATATCGATTACCCCG
154	Slc16a12	GCCAGGAAAACTGTTCGATG
155	Slc16a12	GCTTACCTGTAAGAACTCCC
156	Slc16a12	ACCAGTTATCCTGTCAAGCG
157	Slc16a13	CAGATGCCACGCGCCCCACG
158	Slc16a13	GATCGCTTCCATAGGGATCG
159	Slc16a13	CTGACAGCAGCCCAATACTC
160	Slc16a13	CATTCCATACGTCCACCTGG
161	Slc16a14	GGCCCTAGGAGTCCTCAACG
162	Slc16a14	AAAGGCTACAAACATGCGGT
163	Slc16a14	AATAAAGAGAGACTGCACAT
164	Slc16a14	AAGCCCCACCCAGATATCGA
165	Slc16a2	GTAGGGGACGAAGTAACCAA
166	Slc16a2	CCTCTACTCCATGCTACTAG
167	Slc16a2	CCACACCATTGGCTAGACCT
168	Slc16a2	GCCTGCGCTACTTCACCTAT

Number	Target gene	sgRNA sequence
169	Slc16a3	TATGGGTGTACCCGACACAA
170	Slc16a3	CTGAGTGTCTTCCGAGACCG
171	Slc16a3	AGTATCGATTGAGCATGATG
172	Slc16a3	AAAAGACGCTGACCGCCTTG
173	Slc16a4	AAGGAACGTCCCAAGAATGG
174	Slc16a4	CAATTGCCCGTTCTGGAATG
175	Slc16a4	CTGGCTACTAGGTGGAAAGT
176	Slc16a4	TTGCCATTGCTCATAAGTAA
177	Slc16a5	GCCGTACGCTATGCATCATG
178	Slc16a5	AGGCTCCACATACACAACAG
179	Slc16a5	GGCTTCTGCATATACGTCAC
180	Slc16a5	CTGTGATCACTCCTGCGGTG
181	Slc16a6	GCTGTCGACGATGGCCATTG
182	Slc16a6	ACAGAATGGTCACAGTTGGG
183	Slc16a6	CAATTATTATCCAAGGGCCG
184	Slc16a6	TGAGTCGATGGAGTCTATTG
185	Slc16a7	ATTACCTCCAATGAAGCCAA
186	Slc16a7	AGAGGTACTGGATTCGTGGA
187	Slc16a7	GCTCAGTACGCTAAACACAT
188	Slc16a7	TTCACCAACACACTACTGAT
189	Slc16a8	AGAGACCCCTCGCCCCACGG
190	Slc16a8	GACAGCCAAAGCGCGTCACG
191	Slc16a8	CCTGCTGGTGAACTACGCCA
192	Slc16a8	GAAAGCAACGAGGGTCCCGT
193	Slc16a9	CTAACGGGGATCCGTAAGAG
194	Slc16a9	GGACAGTCGGAGGTTTGCAA
195	Slc16a9	AAACAGAAAGTAGATATTGG
196	Slc16a9	TACCTGTTGAAATCAGGCCG
197	Slc17a1	ACAGATTCGTTAGATAAATG
198	Slc17a1	ATTGTGTGTCGAGTACTCCA
199	Slc17a1	TGGGCACCTCCCTTAGAACG
200	Slc17a1	ATGTCGGCGTGTATGTAACC
201	Slc17a2	GAATCAAGGACTTTAGTACC
202	Slc17a2	ATCCCCGCTAAATATCCACT
203	Slc17a2	TGTGGGAGGATTAATCTCAC
204	Slc17a2	ATCTGACCATCGCCTTTATG
205	Slc17a3	TATGGCATGATACTGATGCA
206	Slc17a3	TCTGCACTATGACCCATCAG
207	Slc17a3	AGCGCATGGAACATAAACTC
208	Slc17a3	ATGTACCTGTTGGTTCAGAG
209	Slc17a5	TCGTCACCCAGATTCCCGGT
210	Slc17a5	TAGAACGTCTAAGGAGTGTG

Number	Target gene	sgRNA sequence
211	Slc17a5	GATCGTTATCTTACCCGCAT
212	Slc17a5	GCTGGCCGCAGACTTAGGCG
213	Slc17a6	CAGGAGGATATATCGCATCG
214	Slc17a6	AGAAATTTAAGACCCCATGG
215	Slc17a6	AAGCACGTGCAGTCGCATAG
216	Slc17a6	AACAACAGCACTATCCACCG
217	Slc17a7	TGGCGATGATGTAGCGACGA
218	Slc17a7	GGAGGAGCGCAAATACATTG
219	Slc17a7	GACACAGCCATAGTGAACGC
220	Slc17a7	TCCATCCTGAATACTGCACA
221	Slc17a8	CAGCAATGATGTACCGTTTG
222	Slc17a8	AATGATGGCATAGACAGGCA
223	Slc17a8	ACTCGCTGGGCATCTTACAA
224	Slc17a8	TCAGCCAGTTGTCCTCCGAT
225	Slc17a9	GATTCGAGAGAATGTCAGGA
226	Slc17a9	GGCAACAGTACAGACGGGCA
227	Slc17a9	TTGGTTACCGATCCCCAAGG
228	Slc17a9	TCTGGGCGTACTATGTGTAC
229	Slc18a1	GGACAATATGCTGCTCACTG
230	Slc18a1	GTAGTTATCCGTATAGACAC
231	Slc18a1	TCATAAAGCCAACAAACATG
232	Slc18a1	CTAAAAACAACTGCTTGCAA
233	Slc18a2	CGAGCCATACGTACCTACGA
234	Slc18a2	CCATCTGCTTTGCAAACATG
235	Slc18a2	GTACATACCTAAGACCCCCA
236	Slc18a2	ATGCAGAATCCAGCAAACAT
237	Slc18a3	AGATAGACGCCTAACACGTG
238	Slc18a3	GGTCGGCTCGGTCAATCCTG
239	Slc18a3	GCTTGCCCGCGAACTCGTAG
240	Slc18a3	CTATATCGCTCACATGCGCG
241	Slc18b1	AGTCTGTCAACTGGATACGT
242	Slc18b1	TAACCCAAGAGTCCGATCCA
243	Slc18b1	GTGAGAATAGTAGACGCCAT
244	Slc18b1	GTATCAATCCTTTGGCTACG
245	Slc19a1	TCTTTCTAAAGCGCCCTAAG
246	Slc19a1	CCTGGAACGTAAATTCACCA
247	Slc19a1	CATGGCCAGCTACTCACGGG
248	Slc19a1	CCGGTGCATACTCAGCAGTG
249	Slc19a2	GGAGTAGTAGGCGATTTCGG
250	Slc19a2	GACTCAGCCTGATTGTGACG
251	Slc19a2	CAAGTGGTGAACTACGCGCA
252	Slc19a2	GCAGGAACCAGCACTCGCGA

Number	Target gene	sgRNA sequence
253	Slc19a3	CTGTCGGAGTATCACACTGG
254	Slc19a3	TGCCAATTCAAAGAATCTAG
255	Slc19a3	ACCAGAGGGACCAGTAAACA
256	Slc19a3	ACAACGTGTAGCATGATGAC
257	Slc1a1	CGACTCACCTAGTACCACGG
258	Slc1a1	TAGGATTACAGCAATGACGG
259	Slc1a1	ATCATGCTGGATACGATCAG
260	Slc1a1	TCACCTGATCAGGTCCAACA
261	Slc1a2	CATGTTGATAGCCTTCCCGG
262	Slc1a2	CCATAGCTCTCGTGCCTAGG
263	Slc1a2	TAATTGCCCATAGGTCTGAT
264	Slc1a2	GTTCATGGTTTCATTCAACA
265	Slc1a3	GTATAAAATGAGCTACCGGG
266	Slc1a3	GACTCTGACCCGGATCCGGG
267	Slc1a3	GAGGCCGACAATGACTGTCA
268	Slc1a3	AGGCTTCTACCAGATTGGGA
269	Slc1a4	GTCTGCAACCGATTACACAG
270	Slc1a4	TAGAGCCACTCCTAACACCA
271	Slc1a4	GATGCCACCCAGACGCCCGA
272	Slc1a4	ACCCACCAACACTCCCGACA
273	Slc1a5	AATCCCTATCGATTCCTGTG
274	Slc1a5	TACAACAGAGTCGTTGATGG
275	Slc1a5	GCGGGAGATCAATTCAACCA
276	Slc1a5	GTGGTGTGCAGCCTGATCGG
277	Slc1a6	ACAGCACACGAGTGGTGACA
278	Slc1a6	ATTGGTGGCATGAAGCACAA
279	Slc1a6	CCATGACCCGAGAGCACGTG
280	Slc1a6	GAAGGGAAAGGGGTTCCGAT
281	Slc1a7	GTGACAACACATACCCATCG
282	Slc1a7	AGTCCACAGGTAGTATGCCA
283	Slc1a7	CCGGCGGATCGTCATCTATG
284	Slc1a7	GTGATGAGGAAGTACAGTAG
285	Slc20a1	GTAGAAAGGTTACCTTACGG
286	Slc20a1	TCAGTATCACACCGTGCACA
287	Slc20a1	CCGGAACGGCTTGATAGATG
288	Slc20a1	GCCACATATTGCCATAGTGT
289	Slc20a2	ATACTGTACACAAAGACTCG
290	Slc20a2	GCCTTACCATAGGAAGCCCG
291	Slc20a2	AAGTGGCGATATAAACCAGG
292	Slc20a2	ATGGTAGCAGCATAAAACAG
293	Slc22a1	GAAGAAGCCCAAGTTCACAC
294	Slc22a1	TGTTAACACGCCAGACAGGG

Number	Target gene	sgRNA sequence
295	Slc22a1	CGGAACAGGTCTGCAAACGA
296	Slc22a1	TCTTTAGCTCCCATCTACGT
297	Slc22a12	GGGCCTGGGAGTTACATACC
298	Slc22a12	ACGGTAGGCAAGCTGGACCA
299	Slc22a12	GAGGTGCTATTGTCCAGGAG
300	Slc22a12	CATCACCAAAGGGCTACCCT
301	Slc22a13	CCTGAAGAAGACCTCCCAGT
302	Slc22a13	AGTAGCCAAGACAAAGCGTA
303	Slc22a13	GAAGAGCAGTAAGACGGGTG
304	Slc22a13	ATCTTGGAGAACACAAGCCG
305	Slc22a15	TAGCTCCAATCAGTGCAATG
306	Slc22a15	CCGATCTTACAAAGTCAGCG
307	Slc22a15	CCTCGTTGGTTATACTCCCA
308	Slc22a15	GTCTTGCTAAATGAGTGCGT
309	Slc22a16	GCTATTTGTTGAAAACGTGG
310	Slc22a16	TCTTATCACTAGATGTGACG
311	Slc22a16	ATTTACGCTTACCCACTAGG
312	Slc22a16	TAGACGTAGCCATCGAAGCA
313	Slc22a17	TTCTCTCAATGACTCTCACG
314	Slc22a17	GAGGCCCAGGAAGCTTTGCA
315	Slc22a17	GCAGACTCCAGAAACAGACC
316	Slc22a17	ATCGCCAGTCCTTAGAGACA
317	Slc22a18	CTAGGTCACTTACCCGTATG
318	Slc22a18	CAGGTTCGCAGACCAGTGCG
319	Slc22a18	TACCTGGAAGTGTGTGCATG
320	Slc22a18	GGCCAGAGATTACCTTGACC
321	Slc22a19	ACTGTGGTTGAATATAGCGA
322	Slc22a19	TGTACGGAACAAGTCCAGTG
323	Slc22a19	GTTGGACAGACACTGTTGGG
324	Slc22a19	GTTAATCTGCCATGCCCTGT
325	Slc22a2	TTGGTGTTTCGATTTCTACA
326	Slc22a2	AAACGATGCCCACATAGATG
327	Slc22a2	TTCAGTCATTAGTGAACGTG
328	Slc22a2	GGAGACTCCGGTATGCACCT
329	Slc22a20	CTGGCGTGGCATACCTGATC
330	Slc22a20	GCTGGACGTACCAAGAATAG
331	Slc22a20	GGTGTGGTCGTACCTGCAGC
332	Slc22a20	GAGCCAGGTCACGAAGGGTG
333	Slc22a21	GGGACATATATCCAACTACG
334	Slc22a21	ACAACCCAGTAAAGCCATTG
335	Slc22a21	TTCGGACCAGATCATAAATG
336	Slc22a21	GAAGCTGAATCCGGTGTGCA

Number	Target gene	sgRNA sequence
337	Slc22a22	ATTGGGTGTACCTAAAGCGT
338	Slc22a22	CTAGTCCCCCAAGTACACCC
339	Slc22a22	ATCATGAGGGGATAACACCA
340	Slc22a22	AGGGAACAATACATCAACAA
341	Slc22a23	GCCCGATTTCTGGTGCCGCG
342	Slc22a23	TCGAGAAAGAGCTTTCACGG
343	Slc22a23	AAATTGCGACTGCCACGCGT
344	Slc22a23	AAAACGGTTCATAATTACCA
345	Slc22a26	ATGAGAACTCATTGACAGTG
346	Slc22a26	TGGAACAAGTCACGTAGAGA
347	Slc22a26	CCAACTCTAATAATAACAGT
348	Slc22a26	ATGGCTGGGTGTATGACCAG
349	Slc22a27	TCCCCCTGGATTCCAACCTG
350	Slc22a27	TGTGGTACCTCATATTGCAA
351	Slc22a27	ATACACCCAACCATCCACAC
352	Slc22a27	GTTCCACAGACAATCCTGCC
353	Slc22a28	TGGACAAACCCTAAATTCCT
354	Slc22a28	GGTGGATGTCAGAGTCAGCT
355	Slc22a28	CAAGTTACTATTTACTGATA
356	Slc22a28	TCTTCTTCTTTATACTCACA
357	Slc22a29	ATACATCCATCCTACGTAAG
358	Slc22a29	TCCAATATGTGGTACTACAA
359	Slc22a29	GAATTCTGGAGACCTAACCA
360	Slc22a29	AAAGCACTGCCATCATGGCT
361	Slc22a3	AGGACACCAGAGGCGCGGAG
362	Slc22a3	AGGAAGAATAATGATCCCGA
363	Slc22a3	CCTCTCATCAAATTACTCAG
364	Slc22a3	CCCATTACCAGTAATAGAGG
365	Slc22a30	TGGACAAGCCCTAAATTCCT
366	Slc22a30	GGACCTGGTGTGTGAATCTC
367	Slc22a30	ACACTCACCTGTCTGACAAA
368	Slc22a30	CTACTGCTTACTTCGATTCC
369	Slc22a4	CAGAGCAAAGTAACCCACTG
370	Slc22a4	GAGAACGCCTACGAAGAACA
371	Slc22a4	CGCAAAGATGAACAGCATCG
372	Slc22a4	AACCAGGCAACGGTGCTCGG
373	Slc22a5	TTTATGATCTGATCCGAACA
374	Slc22a5	GGGTCAGATCTCCAACTACG
375	Slc22a5	CACAAGGCAACGGTGCTCCG
376	Slc22a5	CACACCCACGAAAAACAAGG
377	Slc22a6	AAGGAACTGACTCTAAACAA
378	Slc22a6	ATTCACACCCGTGCCTATGT

Number	Target gene	sgRNA sequence
379	Slc22a6	TCTTCATTGAGTCAGCCCGC
380	Slc22a6	CCCGTAGTAGGCAAAGCTAG
381	Slc22a7	CGGAACAGGTCTAAGTACGA
382	Slc22a7	CCGTATCAGGTACCCAACCA
383	Slc22a7	GAGCCTGGGGATAGGCAAAG
384	Slc22a7	TGCATCGGGAGCAGGAATCG
385	Slc22a8	TCTGAAGACACTCCAACGTG
386	Slc22a8	GATCTGTAGCAAGTTGTGGT
387	Slc22a8	AATGGGTACCCACCTCCACG
388	Slc22a8	CGTTTGGCAGATGCACGAAG
389	Slc23a1	CTGGCATCCTCGTATCCGGG
390	Slc23a1	ACAGGCATAGTAATCACCGA
391	Slc23a1	CTCATCCAGTCCCAACATTG
392	Slc23a1	AGGCTCGAACTGATGCCCGA
393	Slc23a2	CTGGCATCCCCGAATCCAAG
394	Slc23a2	GTGTTTCAGTGGCACGATCG
395	Slc23a2	ACAGGCGTAGTAGTCACCGA
396	Slc23a2	GCGTGCATAGTAGCCATAGT
397	Slc23a3	GGGCACTATAGGACTTCTAG
398	Slc23a3	GGAAGGCCCACACACCCGAG
399	Slc23a3	ACCTACCTACCGAAAGGAGT
400	Slc23a3	GACTCACTGTGCCTACGTTG
401	Slc24a1	CACACAAGTCCACCGATGTG
402	Slc24a1	AGTGTGGAGGATCGACGACA
403	Slc24a1	GGTGAACACATAGAGAGCGT
404	Slc24a1	AAAGCTATATCCCAAAACCC
405	Slc24a2	TCGAAGCCACGCCTCCAACG
406	Slc24a2	TGAGAATGAGAGGCAGAATG
407	Slc24a2	GGATAACGTTATCATGTGGT
408	Slc24a2	AAAGAACTCATCACAGACGA
409	Slc24a3	AATCCCAATTAAGCACACAG
410	Slc24a3	GGCCCCAGAGCTGTTCACGT
411	Slc24a3	CAGCAACTGCGATGCCACTG
412	Slc24a3	TCCAATGAAGACCGACGACA
413	Slc24a4	TCTCATCCACCATAACCACG
414	Slc24a4	ACCCACGGAGATGTCGGTGT
415	Slc24a4	TCTGTGCAGTTCTTAGCCAG
416	Slc24a4	AAACGGGAGACATGAGAACA
417	Slc24a5	CCTTCGGGAAACTCCGATGC
418	Slc24a5	TGAACTAGTTACCGCCTTCT
419	Slc24a5	CAACATCCTGCGACAGTCCA
420	Slc24a5	GAAGTACTTGTCGCAGACGA

Number	Target gene	sgRNA sequence
421	Slc25a1	ATGAACGAGCGAACCCACCG
422	Slc25a1	GAATAATCTCTCTAACCCCG
423	Slc25a1	ACTGCGACTGTACTGAAGCA
424	Slc25a1	CTTCACGTATTCGGTCGGGA
425	Slc25a10	CATGCGGGACTACATGACCA
426	Slc25a10	TACACGGTACAGACCATCCA
427	Slc25a10	GTCAGAGAGTAGGTCATCTG
428	Slc25a10	GACATTGACCAAATCTGCTG
429	Slc25a11	ACAGACTTAGGGGAGGTACG
430	Slc25a11	ATTTGTGGGAACGCCAGCTG
431	Slc25a11	AAGAACCGGATGCAGTTGAG
432	Slc25a11	GCCTGAAGGGCATTTACACT
433	Slc25a12	ACCCGGATGCAAAACCAGCG
434	Slc25a12	ATAGCACTTTAGCAGGCACG
435	Slc25a12	CTCTTGATAGGAGATCAACC
436	Slc25a12	TCACTGGAAGTCTTACCCTG
437	Slc25a13	GGGGCGACTCCCAGTAACTG
438	Slc25a13	CAGATTTATATGAGCCGAGG
439	Slc25a13	ACAAGGCATCCGGAGCACAC
440	Slc25a13	TACAAGATCGATAGGATACA
441	Slc25a14	GATGCCTGTCTTAGTAACGC
442	Slc25a14	TACCAGCAAGAAGGTACCAG
443	Slc25a14	TGAAACGAACATCGATACTC
444	Slc25a14	TTATTTGTAGAACGTTTGGA
445	Slc25a15	ACCTTTCCAGACCTCTACCG
446	Slc25a15	GCCCATGGTAGAAGCCCAAG
447	Slc25a15	GCACAGCATGCGTACTGACT
448	Slc25a15	GGACAGCACTTACTTCTGAC
449	Slc25a16	CTGCACTTACCCTCTCGATG
450	Slc25a16	CCAGTAGAAGTCTCGGCGTG
451	Slc25a16	ATGAACTGGATTGCACCGTA
452	Slc25a16	ATATAGTAGGCATCAGACCT
453	Slc25a17	GAAGTCTAGCAGTATCCAAG
454	Slc25a17	GCCTGGCACCATACCGAGGA
455	Slc25a17	ACTACAAAGGCATTATCGGT
456	Slc25a17	TTAATAGCCTCAAAGCAGTG
457	Slc25a18	TGGGACAGGTAATCACCACC
458	Slc25a18	TGGGATGTGCCTCACCTAAG
459	Slc25a18	AAGGTCAATGGGAAACACGC
460	Slc25a18	CCTGATTCCACAGGACGCAG
461	Slc25a19	ACGGACCATGTATAAGACCG
462	Slc25a19	TCAGCGCACTTTGTGTGCGG

Number	Target gene	sgRNA sequence
463	Slc25a19	GACCCCAATGCCAAATACCA
464	Slc25a19	AGAACTGCAGGCCCGCGTAG
465	Slc25a2	GGCATCCGTGGCCTTTACAG
466	Slc25a2	GACACTTCACAAGCTCAGTG
467	Slc25a2	GGTCCCTTAGGCTTCTATCG
468	Slc25a2	CCACTTTCCTGACAAACTGT
469	Slc25a20	ATAGGGGTGACTCCAATGAT
470	Slc25a20	TCCAAGGTCCCAGAGTACAT
471	Slc25a20	TCAGGGGAGAACAAGTACAG
472	Slc25a20	TCCCAGCTGTAAACAGCTGT
473	Slc25a21	CCTGATGCATCCTCTCGATG
474	Slc25a21	CAATCGGAACTTGTTCAAAG
475	Slc25a21	CCAGATGATCTTCCGAACAG
476	Slc25a21	GATATATGTCACTATCACCA
477	Slc25a22	GTGTCTTAGCCAGGTCGATG
478	Slc25a22	ATACATGCCGAAGTAGCCCT
479	Slc25a22	TGATTCAGGTTGGCAAACAG
480	Slc25a22	GACACCAGCTCTCTAAGGAT
481	Slc25a23	GCAACTCGTGCACGTCCACG
482	Slc25a23	CAACCGGCTTAACATTCTAG
483	Slc25a23	GTTATACCCTCAGATCAAGC
484	Slc25a23	TCAGAGACATCTATGTGACC
485	Slc25a24	ATGAGAAAAAATCAGGACAG
486	Slc25a24	AGAGACTGGACAATTTCAGA
487	Slc25a24	AAGAAGTTGCTTACCGAGGA
488	Slc25a24	ATCTTTGTTGACATCGCCAG
489	Slc25a25	AACAACATGTGCATCGTAGG
490	Slc25a25	GAGGATCCACGAAAGGCTTG
491	Slc25a25	CTTGACACCCAGGTCCCGCA
492	Slc25a25	ACTGGAAGCACTCGACGGTG
493	Slc25a26	GGCATTCAAGGACTGTACCG
494	Slc25a26	AACACCCTTACCGTTAGGAA
495	Slc25a26	CCAGCCTTGTTAAATCCCTG
496	Slc25a26	ACTTTCAAGGATTCCCACAA
497	Slc25a27	GCAGCGCTTGTGAACATGGG
498	Slc25a27	AGTAGGAACTTGCTCGTCCG
499	Slc25a27	CCTACGTGTCTGTAAATGGC
500	Slc25a27	GCGCACCATGCCCCTATAAG
501	Slc25a28	CAACACGTTCCGATAGCGGG
502	Slc25a28	TTGAGTGACGTAATCCACCC
503	Slc25a28	CCCGAACACAGTCTGTCACG
504	Slc25a28	ACGTCACAGCAACAGGCGCG

Number	Target gene	sgRNA sequence
505	Slc25a29	TCGTCTTGGCCAGTTCCATG
506	Slc25a29	TACCGGCATGAGGGCCTGCG
507	Slc25a29	GATGTAATGACCCGCGCCAT
508	Slc25a29	GGTCCTGCCCGTACCTACAA
509	Slc25a3	GCCCCGAAGTGAATGTACAA
510	Slc25a3	GTCAGCGAAGAATTCAGCAC
511	Slc25a3	AATACAGTGATGTGCGCCAC
512	Slc25a3	TGCGGCACTTTACTAAGTCC
513	Slc25a30	GAGCCTGAAGCGGTTAGCTG
514	Slc25a30	AGTCGGATTAGCAATAGCTG
515	Slc25a30	CAATTGATTTAACTAAGACA
516	Slc25a30	CAGAACAGCGCTGTTCAAGG
517	Slc25a31	GGGTTCTGGCAAAATCTAGT
518	Slc25a31	CACAGCTGTCTTCGACACCG
519	Slc25a31	GACTGATTGGTCTATACCAA
520	Slc25a31	AGCCCTGAGGCGCGCTACAA
521	Slc25a32	CGGATCTTCACGAGGTCGAG
522	Slc25a32	GGTTCTCGTACCGGACGTGG
523	Slc25a32	GGAGTAACCCCGAATGTGTG
524	Slc25a32	AGGTGTGCGTGGATTATACA
525	Slc25a33	AGTCCAGGCGTCACAGACGT
526	Slc25a33	CTATTTGGATGGTTAAAACG
527	Slc25a33	TGTCTCCGAGATCCCAGCGT
528	Slc25a33	CTCCAACCAAATTTGGACCC
529	Slc25a34	GCCGCGTGCTGACGACGTCC
530	Slc25a34	CCCTGGACGTCGTCAGCACG
531	Slc25a34	AGCTTCGGAAACTGGTTGCG
532	Slc25a34	GTGGGGACCCAAGCGCAGAT
533	Slc25a35	GCCAGAAACATGGTCTAGTG
534	Slc25a35	TCTGGGAAGCCCAATCTACA
535	Slc25a35	AAGACCAGAATGCAATTGCA
536	Slc25a35	AGAACTGGTACAAGAGCGCA
537	Slc25a36	TTGTAGATGTGGTGGCACAG
538	Slc25a36	AGGGCTATCCTGGAAAAAGA
539	Slc25a36	GAGTCTTTATAAGCCAAATG
540	Slc25a36	TATCAGACAGACGGACTGCG
541	Slc25a37	CTGGATTCATTACTGCATCG
542	Slc25a37	CACTGTCCGGATACAACTGA
543	Slc25a37	GATGAAGTGAATTGACTGGA
544	Slc25a37	GCATCTATGGCGCCCTCAAG
545	Slc25a38	TCCAGGGACACATCTCACAA
546	Slc25a38	CTGAGAAGGGGGCATCACGG

Number	Target gene	sgRNA sequence
547	Slc25a38	AGAGGAAAGCCTTAATCACT
548	Slc25a38	AGTGATCAAGACACGCTATG
549	Slc25a39	GTACTCACCGCTGGTTGCCG
550	Slc25a39	CAAGGTGCCAGTGAACCGTG
551	Slc25a39	AAGTGCCTCCTATACTGCAA
552	Slc25a39	GGCGGACCTTCACCACATCC
553	Slc25a4	CAGTTTGACCCTCTCGATCG
554	Slc25a4	GGAAGATCCCTTGCCCACGT
555	Slc25a4	TTGTGTCGTGAGAATCCCCA
556	Slc25a4	GGGGAAGTACCGGATCACGT
557	Slc25a40	TATATCCATAGTGACTCCCC
558	Slc25a40	TTTCAACTTACAGAGTAGGA
559	Slc25a40	ATATACATACCTTTGGGGAA
560	Slc25a40	ATGTCTTTACCAATGTCCCA
561	Slc25a41	GACGCTCATAAACCCCATGG
562	Slc25a41	CTAGGTCGGTGCAAGCATAG
563	Slc25a41	GAACTTGATAGCATACTCTG
564	Slc25a41	ACAAACCTGCATGTACACCC
565	Slc25a42	GCTGGGTGTCATTCCCTATG
566	Slc25a42	AGGAATCACTCGCACCATGG
567	Slc25a42	GTACGTGAGGGAAGCCGCAG
568	Slc25a42	CTTCATCCGAATCTCGAGAG
569	Slc25a43	GTGCTGGAACCATCATACAG
570	Slc25a43	TGTAGGGTATGTGACAATCG
571	Slc25a43	GTTCCTGGCCCTTTATCGAG
572	Slc25a43	TCCACTGGGAAATACGGCCC
573	Slc25a44	GTCAAATCACTCGTAGCCGG
574	Slc25a44	GATGTCCTTAGTCTGGCCAA
575	Slc25a44	TGGGATGTACGTTAGCAGCG
576	Slc25a44	TGAGTGTGAAGGTGTTGACC
577	Slc25a45	ACAAAGTACATTCCTAACGT
578	Slc25a45	GGCTACCTACTGACTCATGG
579	Slc25a45	TTTGTAGACGGACTTTGATG
580	Slc25a45	TGCACAGGCCCCCGGTACCG
581	Slc25a46	GTGAATTTACACCTTTACCG
582	Slc25a46	TGAGATGGTAATGCCGAGCA
583	Slc25a46	GCGGAACCCTCGAGCGTCGG
584	Slc25a46	AATTGGACGAGTGATAGGCT
585	Slc25a47	GGGACACGTATCGTCAAGAG
586	Slc25a47	CAAAGGAGTGACCCTCACGA
587	Slc25a47	GTTCCTGACGTCACCCACTG
588	Slc25a47	ACTGCACTGTTTAGTCACAG

Number	Target gene	sgRNA sequence
589	Slc25a48	AGATCAGACAGACTTCGGCC
590	Slc25a48	GAACACCACCGAGTTATAGA
591	Slc25a48	CACATTCAACTGCATCCGCA
592	Slc25a48	CTGGTATGCTGCCACCGCCC
593	Slc25a5	CAAGGGCATCATAGACTGCG
594	Slc25a5	CGCAGCCATCTCCAAGACAG
595	Slc25a5	TTAAGATCTACAAATCTGAT
596	Slc25a5	GCACAAGGATGTAGCCCCAG
597	Slc25a51	GGGATTGCAGAGTATTACCG
598	Slc25a51	ACCAAACATAAGTGCCAGCG
599	Slc25a51	TGACAAGTCCTGGTTCGAAG
600	Slc25a51	TTACTTGTGTGGCTACTGCG
601	Slc25a53	GTCACAGGCCTACACCCTTG
602	Slc25a53	GGCCCTCAGTACTTCTACCG
603	Slc25a53	CTGTCACTGGGCTATTATCG
604	Slc25a53	AAGGGAGTGTGGCCCAACCG
605	Slc25a54	AGAGACAGCAATCAAGATCG
606	Slc25a54	GAATAGCGAGTGCGATCACA
607	Slc25a54	CTCCGTGTCTTCGCTAAACG
608	Slc25a54	TGGCCTGAGAGAGAGAAATG
609	Slc26a1	ACAGGCCAACATATGTGATG
610	Slc26a1	CCAGCCGGAGGATACCCATG
611	Slc26a1	TACCAGACCCTAAGATAATG
612	Slc26a1	GCCCACATTAACATGGCGGG
613	Slc26a10	CGTGTAGAGTCCGAACACCG
614	Slc26a10	GCTCCCTTTCGATTCCACTG
615	Slc26a10	GGACACAAGATACAATGTCC
616	Slc26a10	AAAAGCAGCCGATCTGGCGT
617	Slc26a11	CTTGCCGTGAAGTTCAGCCG
618	Slc26a11	TCCGCTGCCAGCATCACAAT
619	Slc26a11	GGTACCTGGTCTCTCCGATG
620	Slc26a11	AGGGTAGGCGACGCTGTCCT
621	Slc26a2	GAGCCGACACCATGACTCCG
622	Slc26a2	ATGGCCGGAGAGCTTTCCGT
623	Slc26a2	ACTGTGCCTTATGATTGGTG
624	Slc26a2	TCCAAAATGAGAAGCCAATG
625	Slc26a3	CTATCCGAGTCCCTAATCAG
626	Slc26a3	TCCACGCTGGGTGTAATAGG
627	Slc26a3	CTGGCAACCAAGATGCTATG
628	Slc26a3	TAATCCGAGTCCAAGGACAA
629	Slc26a4	TTGTGAATCCGCCAACCAAG
630	Slc26a4	GCTCCCAAAATACCGAGTCA

Number	Target gene	sgRNA sequence
631	Slc26a4	TCTGGTTCCAGTGTCTAACG
632	Slc26a4	GAAGACGTTGCTTATCCCAA
633	Slc26a5	GGTGCGAGGCTTTACCACTG
634	Slc26a5	CCTACATGAGTCCTACAGTG
635	Slc26a5	GATGAGTACAGGCCAAACAC
636	Slc26a5	TGACGATCACAATGGCGGAA
637	Slc26a6	ACCGGAACCAAGTTCGCCAC
638	Slc26a6	AGCTGATGATGCACGCGTGC
639	Slc26a6	CCCGGTATCCTGTGCGTGAA
640	Slc26a6	GTCCTAGATGCTCCCGTGCT
641	Slc26a7	TAGACCATACTTATTACCTG
642	Slc26a7	TTGTGATGTCACGACATGGG
643	Slc26a7	GCAGTTCAACAGGTGGCACA
644	Slc26a7	TCAGCTCTTTAACGAGAACA
645	Slc26a8	TGGGATCATCTTAAGCAATG
646	Slc26a8	AAATGTTAATGACTACCGGG
647	Slc26a8	GCGTAAGTGACGTTGAGGGG
648	Slc26a8	ACTTACAAGCAAGATAACCA
649	Slc26a9	TGTCACCAATGAGACCTACG
650	Slc26a9	CTGACCATTCCCTCCTATAC
651	Slc26a9	CTTTGCCGTTATCAGCATCC
652	Slc26a9	ACTCAGTGGAGGGTGTATCC
653	Slc27a1	GGATGGGGTACACATGCGTG
654	Slc27a1	GGCTAGAGCTGCGACGACAC
655	Slc27a1	GAGGCAGCCGGTTCGCGACG
656	Slc27a1	ATACCTGCAGAGTGGTAGAG
657	Slc27a2	TGAGCTGATCAAGTATGACG
658	Slc27a2	ATGCGTAGAACTCATACACG
659	Slc27a2	GCTTACGTAAAAGACGGACA
660	Slc27a2	CTTCACGGATGCATCGTGGT
661	Slc27a3	CTACGTTCAATTACACAGGA
662	Slc27a3	GCAGCGCTTTAGCTACGCGG
663	Slc27a3	GTGCCCACCGCTTTACGCCG
664	Slc27a3	TGTGGTACAGTGGGAGTGCG
665	Slc27a4	CAAACGGATAGGGTACACAA
666	Slc27a4	TCTACACATCGGGCACCACG
667	Slc27a4	TGACTTCAGGAAACATCGTG
668	Slc27a4	ACAGACCCACAAACTCATTG
669	Slc27a5	GTGGGCTTAATGAACTATGT
670	Slc27a5	TACCTCTGTACCATACGATA
671	Slc27a5	GTAACAGTGATCTTGTATGT
672	Slc27a5	CCTTTGTGGATGCTTTAGAG

Number	Target gene	sgRNA sequence
673	Slc27a6	GAACTGTACGGAGCTACCGA
674	Slc27a6	AAGCCTTCATCATTTATGAG
675	Slc27a6	CAACTGCCAAACGTACCCGA
676	Slc27a6	GGTGCGCTACGGAATTCAGA
677	Slc28a1	ACACCAGCTGTTCCGGCCGC
678	Slc28a1	ACGAACAGCGCCAGCGCCCT
679	Slc28a1	TGGCCTACAATCTGCTAAAG
680	Slc28a1	CGCCCAGCGGCCGGAACAGC
681	Slc28a2	ACCGCTTTGCCCAAAGATTC
682	Slc28a2	TCCTCCTCCAGGGTGTTCGT
683	Slc28a2	AAAACACCCACCTGAATCTT
684	Slc28a2	CTGTTGTTGGCCTCATCCTC
685	Slc28a3	AGTTCCGACTTGGTGACGTG
686	Slc28a3	TGCAGGTGCGGACATGACCG
687	Slc28a3	AAGGACACGCCAAACAGGTA
688	Slc28a3	TCTGTGGAAGTTTATCGCAC
689	Slc29a1	GCTGATGCAGAAACGAGTTG
690	Slc29a1	GCATGATTGATCAGTGTCCG
691	Slc29a1	TACACAGCCCCCATCATGAG
692	Slc29a1	GGCCAAAATGACAACTGCAC
693	Slc29a2	CAGGCTGAGGTAACATACGA
694	Slc29a2	GCAGCATCCCCGAGTCGGTG
695	Slc29a2	TCTGGGCATCCACGCCACCT
696	Slc29a2	GATGAACCAGACGGACGCCA
697	Slc29a3	AATGATGGCCATGCACGCGA
698	Slc29a3	GGGAAACTGCGCAGAACCCG
699	Slc29a3	CAAGGAAGACTGCTGCCATG
700	Slc29a3	ACCAGAAAACACTCGAACTG
701	Slc29a4	GCTGTTGCACCGATACGTCG
702	Slc29a4	ACTGCCCAAGAGGTACACGC
703	Slc29a4	GTGGTGAAGATAGTCGACAT
704	Slc29a4	TGTGCTCCTAAACAACGTTG
705	Slc2a1	CCTGCTCATCAATCGTAACG
706	Slc2a1	TCAGCATGGAGTTCCGCCTG
707	Slc2a1	GTGTCACCTACAGCTCTACG
708	Slc2a1	CAAACATGGAACCACCGCTA
709	Slc2a10	CAGCCCCGTGGCGACCAAGG
710	Slc2a10	AGAGGCGTAATACAGCACAT
711	Slc2a10	TGTGCTGGTGTCCCTCTACG
712	Slc2a10	AGCCAACAGATAAACGGCCC
713	Slc2a12	GTCCTACACGCTCCTTATAA
714	Slc2a12	ATTGGAGCCCGTTAGGTGTC

Number	Target gene	sgRNA sequence
715	Slc2a12	ATACCAGTGTCAGACCTATC
716	Slc2a12	GGCGCGGCCTCTAATTCCAC
717	Slc2a13	CATGGCCCCCGACACCACGC
718	Slc2a13	CCTCGGTGGCTGATTCAGAA
719	Slc2a13	CACATCCCACAACTAACGCT
720	Slc2a13	AAGGATAATCAGTGCTACTG
721	Slc2a2	AGAGGGCTCCAGTCAATGAG
722	Slc2a2	TTACCGACAGCCCATCCTCG
723	Slc2a2	GGACTGGTTCCAATGTACAT
724	Slc2a2	TGTGATCAATGCACCTCAAG
725	Slc2a3	TTAGAAGACCTACCAAGTGA
726	Slc2a3	GACCACGCCTGCTCCAATCG
727	Slc2a3	CTGGAATGATGGTTAAGCCA
728	Slc2a3	TGTGCCTATGTACATTGGAG
729	Slc2a4	GCAGCCTCTGATCATCGCAG
730	Slc2a4	AACAGAGCTACAATGCAACG
731	Slc2a4	AACCAGAATGCCAATGACGA
732	Slc2a4	CCAGGTCTAAAGCGCCTGAC
733	Slc2a5	CTGGCCCCGAAAAACCTACG
734	Slc2a5	TGCGCTGAGGTAGATCTGAT
735	Slc2a5	CCTGCCCAGTTTATTCACCA
736	Slc2a5	CGGGGACTCCAGTTAGACCC
737	Slc2a6	GAGTAGCCGAGTGTCGTGGG
738	Slc2a6	GAGAGACAGGGATCCAAACA
739	Slc2a6	CATCTTCGACAACACATCCG
740	Slc2a6	ACTACACCTGGACAAAATCC
741	Slc2a7	CGGCGATGTTGTAGCCATAC
742	Slc2a7	TGCCCCACTTATTGACCATC
743	Slc2a7	GACACGCACTTTGAGCGACA
744	Slc2a7	TTCCCACCAGCACTCGAGAC
745	Slc2a8	CCTGCGCCTCGGAGACAATG
746	Slc2a8	ACAGCAAAGCCAGTCACGAA
747	Slc2a8	GATTATGCCCACAGTGACCG
748	Slc2a8	TTGAGTGAGGAGAAAACGTG
749	Slc2a9	CGGAGAGGTTGTACCCGTAG
750	Slc2a9	GCATGCCATCAGCAACGCTG
751	Slc2a9	CCAACTATGTGGACTCAATG
752	Slc2a9	TCTCAACGAGATCTCACCCA
753	Slc30a1	TGGGCCAGCGTCACGCATCG
754	Slc30a1	CCAGGAGGAGACCAACACGC
755	Slc30a1	GGCATTCACGACCACGATCA
756	Slc30a1	GGAGTCTGACAATCTGGAAG

Number	Target gene	sgRNA sequence
757	Slc30a10	CCATGACAACAGTCAAACTG
758	Slc30a10	AGCCGTGATGACCACAACCA
759	Slc30a10	GCACAGCAGTGACTCTCCGG
760	Slc30a10	TGCTGCAGATGGTCCCCAAG
761	Slc30a2	CTGGTCGGGAAGACACCCAG
762	Slc30a2	TGGAGATTATGAGATCAAAG
763	Slc30a2	AGGCCACATAGAGTTTGCGT
764	Slc30a2	GATGGAAAGCACGGACAACA
765	Slc30a3	GATAGTCACTATGAAGCAGG
766	Slc30a3	GTCTCCCAGCACATGCACAA
767	Slc30a3	GCCCACTTGCTAGCAGACAT
768	Slc30a3	TGCAGAGTATGCACCTCTAG
769	Slc30a4	CGGACGAGGTGAGCGACGAG
770	Slc30a4	TCCACTAGATACCATGCTTG
771	Slc30a4	ACCTTTGGATTTCATCGCCT
772	Slc30a4	ACTTTGTACCAAGTCTCCCA
773	Slc30a5	TGTTCTTTCTGTGACGACTG
774	Slc30a5	GGCGTGCTAACCAACAGTCT
775	Slc30a5	ACCACTCTATCACTTCATGG
776	Slc30a5	ACAGAGCACGTCCTGTCTGG
777	Slc30a6	AACTGACCGATAACATGAGG
778	Slc30a6	TCAGAACAAACGGATTCATG
779	Slc30a6	GGGCAACATACCGATGCTGT
780	Slc30a6	CTTACCCAAATGAATAGACA
781	Slc30a7	AGGAGTCGGAGATCAAGCCT
782	Slc30a7	CATTAAAGAGGGAATGACTG
783	Slc30a7	AAACAAGCAGCAGTCTCTCG
784	Slc30a7	CATGACCATGACCACGCTCA
785	Slc30a8	GCTCTGAAATACATCCCCCA
786	Slc30a8	TGGTATGACTTACACAATGT
787	Slc30a8	TCTGGCTATCCTCACTGATG
788	Slc30a8	CTTGCTCGACCTGTTCCCTG
789	Slc30a9	AAGGACTCGGTGTCATCGTG
790	Slc30a9	ACTGAGACCGCTCTGGAACG
791	Slc30a9	ATTATCTGATACTTGTAACC
792	Slc30a9	CTACGAATGTCCAGAAAGGA
793	Slc31a1	TGTGGTTCATACCCATATGG
794	Slc31a1	TTGGTAATCAATACACCTGG
795	Slc31a1	GGACTCAAGATAGCCCGAGA
796	Slc31a1	TCAGCCTCACACTCCCACGG
797	Slc31a2	CTGTATGAGGGCATCAAGGT
798	Slc31a2	CAGACAATAGGACCCGCCTC

Number	Target gene	sgRNA sequence
799	Slc31a2	GGACCAGACCAGGATTCTAC
800	Slc31a2	CAAGATGAACTGCTGGCTGT
801	Slc32a1	GACGTGTATCTTGTACGTCG
802	Slc32a1	ACAAACCCAAGATCACGGCG
803	Slc32a1	GGAGACATTCATTATCAGCG
804	Slc32a1	CAGCAGACTGAACTTGGACA
805	Slc33a1	GTGACTTACCTAAAGCCCCG
806	Slc33a1	ATGTTATCCCGGGAAAACGT
807	Slc33a1	GAAAGGGTAACGATTCCCCT
808	Slc33a1	AAATATTGATGGCAGAACAC
809	Slc34a1	AGTTGAGCATCTTCACAAGG
810	Slc34a1	TGACCCACTACCTACCAAGC
811	Slc34a1	GTGTCACCCAGACACAACAG
812	Slc34a1	TGCCATCCTATCCAACCCAG
813	Slc34a2	TCATAGAGGAGCATCCCGAG
814	Slc34a2	CTCCATCACCAACACGATCG
815	Slc34a2	AGAGGTGCAGTTATCAGTCG
816	Slc34a2	CTCACCGATGAGTGGAGTCA
817	Slc34a3	AGGTTAGGCCTGCGCCAACG
818	Slc34a3	AGTTGAGCAGTTTAACGATG
819	Slc34a3	GATAGCAGTGTGATAACCAG
820	Slc34a3	CAATGACCAAGCCCGCCACA
821	Slc35a1	GAACACTCAGCAAATTACAG
822	Slc35a1	ATAGCACCAAAGCCTAACAA
823	Slc35a1	TGCACAGCATACACTAGTGA
824	Slc35a1	TCTTAAAGCTACGGTGTAAG
825	Slc35a2	TCACCCGCTGTAGTGGACCC
826	Slc35a2	CTGCTCTTCGCACAAAAGAG
827	Slc35a2	CTGCAAGGTATAGATGAGAG
828	Slc35a2	GGCCACTGGATCAGAACCCG
829	Slc35a3	GCTGTAGAAGACAGATAACG
830	Slc35a3	TGAAGCTCGCTATCCCGTCA
831	Slc35a3	TCCTGCCATCAGAATTACTA
832	Slc35a3	CAAACTGTGAGCCTGTTGAA
833	Slc35a4	TGTTTGCCAGCCTACCAGGA
834	Slc35a4	AGTGGACAGGAAGAGCAACA
835	Slc35a4	GTTCTTAGCACTGTGCCATG
836	Slc35a4	TCCCAGTGGAGTGATATGCA
837	Slc35a5	ATTGAACTATAATCAGAACG
838	Slc35a5	AAGAGACAATTGTACATCGA
839	Slc35a5	GATTCTGTTCTTGTCTATCG
840	Slc35a5	CTCTGAGCACACGTTCACAG

Number	Target gene	sgRNA sequence
841	Slc35b1	CCTGTGTGTATTGCTAATTG
842	Slc35b1	GTTTGTCAACTATCCAACTC
843	Slc35b1	TGTTTCGTCTTAGCACAAGA
844	Slc35b1	GGAGACCATGGCACCCACAT
845	Slc35b2	AAGCAATATAGCCTGCCAGT
846	Slc35b2	CTGCAGGAAAGAGTGATGAC
847	Slc35b2	GGCTCCGCGGACAGAGACAG
848	Slc35b2	TACATGGGTGCACCATGACG
849	Slc35b3	GTACACAAACCCGATTGAGT
850	Slc35b3	TCCTCAACTGACTTGATGTG
851	Slc35b3	AAGGTAAGGTACCAGCCGTA
852	Slc35b3	TCTTGTCTCACATAGGAAAG
853	Slc35b4	GATCTGAATATCATATGCAG
854	Slc35b4	CACGCTGACAGTGAAGAACA
855	Slc35b4	GCAGTTCTTATTTATTGCTG
856	Slc35b4	GAGGCCAAGAAGATGAACCC
857	Slc35c1	AGGGCACCCCTACGTACTTG
858	Slc35c1	AGGTTAGGCGCCAGATACTG
859	Slc35c1	CTCACCAATGATGACGCCGC
860	Slc35c1	GCAGTGAGGTCACCAGGCAT
861	Slc35c2	CGAAGGCCAGAATCCCACCG
862	Slc35c2	GTATTTGTGTAAGGGTCCAG
863	Slc35c2	CCTTCGAATATGGCAAAGAG
864	Slc35c2	AGGTGGAACATGGTGTCAAT
865	Slc35d1	GGCGCCGGCCGAAACGCTAA
866	Slc35d1	TGTGTGTGGAGGATTTCGCG
867	Slc35d1	ACTGTATTTGCAATGATCAT
868	Slc35d1	TGGTTCCCAAAATATAGTAG
869	Slc35d2	AATTCCAAGTACAATTGGTG
870	Slc35d2	TTCCTGAGCACGGTGAACAT
871	Slc35d2	CTTGAATGATATCTTCACCG
872	Slc35d2	TCCTGGAGGCTATCATACTT
873	Slc35d3	CGCCCGTTACGTACCCAATG
874	Slc35d3	CTCACTCTCTGGTCGCTGCG
875	Slc35d3	GACGGCGATCACATACTGTG
876	Slc35d3	CGAATATGGAAACCATGGCC
877	Slc35e1	CAGAGCTGTCCTTCGACGTG
878	Slc35e1	TGTTCTTCATGATCCCCACG
879	Slc35e1	GACCAGCCCCCACACGTCGA
880	Slc35e1	CTGGGTTGCGCAGCATAATG
881	Slc35e2	TGCGTTATCCACCAACATTA
882	Slc35e2	ATGCTGTCAACAACGTTAAT

Number	Target gene	sgRNA sequence
883	Slc35e2	ACTAGCGTTGTGCACTGCCA
884	Slc35e2	ATGATTCTGGGGGAGTACAC
885	Slc35e3	CGTCAGAATACAGCTCACGC
886	Slc35e3	AAATGGATCTATGTACACCA
887	Slc35e3	AGTCACGTCCCTTTATCAAG
888	Slc35e3	CTGGTAGTAAAGTAGCTGCA
889	Slc35e4	TGAGCAGCAGCACTCGACGG
890	Slc35e4	CTTGAAGCCTCGCAGACAGG
891	Slc35e4	GCTGCCACAACCACTCTCGC
892	Slc35e4	CAAAGAAGTGGCATACAGCA
893	Slc35f1	TTCGTCGTAAAATTGCCAGG
894	Slc35f1	GACATTTGAGATCCCGTACA
895	Slc35f1	ACCGGCCCCGCCGAACCATG
896	Slc35f1	AGGAGAGCAAAATCACCACC
897	Slc35f2	GGCCGTGCCGCAAATACACA
898	Slc35f2	TTGGTGCAGACATATTAGCT
899	Slc35f2	TCTTGCCCGGAGAATAAACC
900	Slc35f2	CCAGCATCAACGTGTAAACC
901	Slc35f3	GTCATGATGACCTATGCCGA
902	Slc35f3	GGTCCTGACCCTCACCAAAG
903	Slc35f3	GTTGGTGGCAAACCACGTCA
904	Slc35f3	ACTGGACATGTTCTCAGGAG
905	Slc35f4	GATGGCCGGAATAATAGACT
906	Slc35f4	TCAGTTACTCGATGCAAACC
907	Slc35f4	CATTGTCATGATGGCGTATG
908	Slc35f4	ATGGTTCTGAAGACCATCTG
909	Slc35f5	GCTGTATTTCCGAGTAACAG
910	Slc35f5	CAGGAGAATCACTATCCCCA
911	Slc35f5	TCAGAGAAGCCCTTGCAACA
912	Slc35f5	CTCCCAAGAAGTCCCGTGTA
913	Slc35f6	GGGACCAGCATCATGTACGT
914	Slc35f6	GGATGTAGAACATAGGCACA
915	Slc35f6	AATGCTGGTACCTGGACGAA
916	Slc35f6	GATCACTATTGCGGGACTGG
917	Slc35g1	ACAGCTAAACGCAATAACTG
918	Slc35g1	ACGCACTGATCTCTACAGCA
919	Slc35g1	TCATTTAAATTTGCAGAACG
920	Slc35g1	GTCCACGTGCTCCTCGCCGG
921	Slc35g2	GAAAATGGCGTATGTTGACA
922	Slc35g2	CTTGGGTCTTCTGACGACGA
923	Slc35g2	AGTCGTAATCTGTATCCGCT
924	Slc35g2	TACTATCATAGAAAGCGCCG

Number	Target gene	sgRNA sequence
925	Slc35g3	CTTGGGCTAATCATCATCGT
926	Slc35g3	GAAAGCCAGTACATAGCCCA
927	Slc35g3	ACCACGGAACTTAAGTAACA
928	Slc35g3	TGTAGGCGCAACCAATGCTG
929	Slc36a1	AGAAGATGGACAACACACGC
930	Slc36a1	GTCCGGAACCACTCCCACTG
931	Slc36a1	CTGTACTCTACATCAGCCTG
932	Slc36a1	ATCGCTGTGCCAAAGAACAG
933	Slc36a2	TGACTAGGATGTGCATACAG
934	Slc36a2	GGTAGTTCTGACGCCCACCA
935	Slc36a2	AGCAAAGTACCTCCCCCAGT
936	Slc36a2	AGCCCCGATAGCAATGTACA
937	Slc36a3	TCCCCAGATACAGCACAGCG
938	Slc36a3	AGAGACCACAATGTACAGCC
939	Slc36a3	TGAGCGCCCCGATGGCCAAG
940	Slc36a3	CACCTGTTGAAAAGCAACAT
941	Slc36a4	TTTCGATGGGTCGTCCGACG
942	Slc36a4	TCAGGCATTGAACATCGGCA
943	Slc36a4	CCGCGTTCTTTATAGCCAAG
944	Slc36a4	TTGCCATGGAGGCTAGTCCG
945	Slc37a1	CTGAACAATGAGACCGACTG
946	Slc37a1	GTTCCCCTATTATTCCACTG
947	Slc37a1	CCACAGCCTGGGATTCTACG
948	Slc37a1	ATCATGCTGTGTTGTAGGCG
949	Slc37a2	TTAGCACCATTCCAGCCGAG
950	Slc37a2	ACGATCTCAATGATACCACC
951	Slc37a2	CCCACATTGAAGATGTACAA
952	Slc37a2	GGCTTGTGCAGACTACAGGC
953	Slc37a3	ACCATACTGGAGAACCGATG
954	Slc37a3	TCAGCGGCATCATAGGCGAT
955	Slc37a3	GCCTAACTATTCGATCCAGG
956	Slc37a3	CCTAGGTCTCCCGAGTATCG
957	Slc37a4	CTACGTTGACCAGACCAACC
958	Slc37a4	TCTTTACTCCGAAGACCACG
959	Slc37a4	CACAAACTTGCTGATGGCGT
960	Slc37a4	CAGAGCGATCTCATCCACCA
961	Slc38a1	ATACTTTGGTGTGCACGCGT
962	Slc38a1	TGCATGGTGTATGAGAAGCT
963	Slc38a1	TCACCATCACCACCAACACT
964	Slc38a1	AGATTGGCAGGACGGACGGG
965	Slc38a10	TTGACGCAAGAAGCTCGCAG
966	Slc38a10	TGCACGGCAGAATCATCATG

Number	Target gene	sgRNA sequence
967	Slc38a10	GCTTCACAGGAGCAACGATG
968	Slc38a10	TCACCTGTAGCAGCACGGCA
969	Slc38a11	TTTCCCTCCGTGTTCATGTC
970	Slc38a11	TGAAAGGGTACATAAACTGT
971	Slc38a11	AATGTAGTCAATTCTGTTAT
972	Slc38a11	CCTTATTCAATGAAGCAAGC
973	Slc38a2	CCACCAAAGCAGCTTCCACG
974	Slc38a2	CTCAAGACTGCCAACGAAGG
975	Slc38a2	GCAGTGACAATGGAAGAATG
976	Slc38a2	GAGTTGAAGATGAAATAGCG
977	Slc38a3	AGCTGTCGCATCAGTGCTAG
978	Slc38a3	CATGACATACATGACAGCAA
979	Slc38a3	GATGTATAGGTAGCTGGACA
980	Slc38a3	ACCTGCTCCTCAAGTCTTCG
981	Slc38a4	CCACGGACACAAATAAGACG
982	Slc38a4	GAAGAAGCTAGCCGATTACG
983	Slc38a4	GATCTCGCTGCCTAATGACT
984	Slc38a4	GATGAAGAGGTAGCTTGACA
985	Slc38a5	AGCTACAGGCAGGAACGCGA
986	Slc38a5	ACCTGCCGGGAAAGTAGTCG
987	Slc38a5	GGAAGGTGCCAATAACAAGG
988	Slc38a5	ACCTCAGCAACGCTATCATG
989	Slc38a6	CGTGACGTCTTACGAAGATC
990	Slc38a6	CCTTGGTTTGGCGTATGTGA
991	Slc38a6	CAGATCTTCGTAAGACGTCA
992	Slc38a6	CCATCACATACGCCAAACCA
993	Slc38a7	GCTGGTCCCCAATAATGATG
994	Slc38a7	AGTTGAGCAGACCCGCACCG
995	Slc38a7	AGATAAAGAGATGCGCCCGG
996	Slc38a7	ATGTGGTACCTAAGAGTGAG
997	Slc38a8	TCACGGTGCAATACTACCTG
998	Slc38a8	ATTTCCCGAAGTGCTGACAG
999	Slc38a8	GCTGGTCCCCGATCACTCTG
1000	Slc38a8	TCTTTGGTCTTCCTGATCAG
1001	Slc38a9	TACTCACATAGTAACTAAGC
1002	Slc38a9	AAAAAGGCTGGATTTACCAC
1003	Slc38a9	AAACTCAAGAGTTACACTGA
1004	Slc38a9	ACTTTACTGCTGCTATAGAG
1005	Slc39a1	AGCACTGGCACGATGGACCA
1006	Slc39a1	CCAAGATGAACTCTTGCAAG
1007	Slc39a1	GGTGATGGAGCAGATCACGC
1008	Slc39a1	AGACCAGGACACAAGCACGC

Number	Target gene	sgRNA sequence
1009	Slc39a10	CGTGCGTATGCTGATGACTG
1010	Slc39a10	TGAACAATATGAGCATAACC
1011	Slc39a10	AGTCGTTGAGATTAATCACG
1012	Slc39a10	CGATCTGATACAGCAATGCA
1013	Slc39a11	AGAATGGCGAGGTATACCAG
1014	Slc39a11	CCACTGTGAACTCACCCCTG
1015	Slc39a11	GAGATGGCGACATCCTCGGG
1016	Slc39a11	CAGACTTCTTCATCAATGCA
1017	Slc39a12	CAATCTTACCAGATAGGTGG
1018	Slc39a12	ACCAATACCCTCCACCTATC
1019	Slc39a12	GATGCACTGTTACTCACAGC
1020	Slc39a12	TGAACATGCTCACGACCAGA
1021	Slc39a13	ATAAAGAAAGCGAGTCCTGG
1022	Slc39a13	TACACCTGTAACATCACCCC
1023	Slc39a13	CTCACCTTCTGACTGTAACA
1024	Slc39a13	CTGGGGCTATGGGTCATCGC
1025	Slc39a14	GAGCGAGCGATCTCAGATCG
1026	Slc39a14	GTAGAGGGTTCCAATCGCCA
1027	Slc39a14	TAAAATGGTTATGCCCGTGA
1028	Slc39a14	GTGACCGAGAAGCTACAGAA
1029	Slc39a2	TCCATAGGGATACTCCACCT
1030	Slc39a2	TTTATTAGGTCATCACCACA
1031	Slc39a2	TGGATTCCACAAGCATCCAG
1032	Slc39a2	CTGTATGGTGGCCGCCACTG
1033	Slc39a3	CAGCGCACACCCATGGCGCG
1034	Slc39a3	GAGTACGAGAGCCCGTTCGT
1035	Slc39a3	GCTGCCTGTGAAGGTCATCG
1036	Slc39a3	CATCAGCACCGACTACCCGC
1037	Slc39a4	GGTCCTGAATACGGATAGTG
1038	Slc39a4	CAGTTGGGGAAGATCTACAC
1039	Slc39a4	CATGCAGCGTGATATTGGGA
1040	Slc39a4	TGGAGAGGGTCACACCCATG
1041	Slc39a5	CAGCAGAGCGAACTGACGAG
1042	Slc39a5	AGGACCTAGTGAGCAATCAG
1043	Slc39a5	GTGGAGACAATTTCACACAC
1044	Slc39a5	TCAGATGGTCAGCCAACGAA
1045	Slc39a6	CGTGGTCCGAGTGATGCTCG
1046	Slc39a6	AGGAATCATTCTCTCCGTAG
1047	Slc39a6	CAGCCACGGAACTTACGTGT
1048	Slc39a6	GACAGCGTTGTATACCGCCG
1049	Slc39a7	TCACGTGAGGAATTACACCA
1050	Slc39a7	TCACAAATTTCTCCACCACG

Number	Target gene	sgRNA sequence
1051	Slc39a7	TCACATGAAGATTTCCACCA
1052	Slc39a7	GGTGGAGGAACGCATCACCC
1053	Slc39a8	TCAGCTGCTGTAAGATCGCG
1054	Slc39a8	AGGGGGTTAAAATCAATCCC
1055	Slc39a8	CGTTAGGCTCAGTGACAGCG
1056	Slc39a8	CGGCGCCAACCGGAGCCTGT
1057	Slc39a9	TGCACTGGCGGTCATCGTCC
1058	Slc39a9	TTGCCACGAACACAATTAAC
1059	Slc39a9	TGTCCAGTTAATTGTGTTCG
1060	Slc39a9	TTTCTAGGAGCGGCTGAAGC
1061	Slc3a1	CCATATACCAGATCTACCCG
1062	Slc3a1	ATCCTTGGTTCCAATCGAGT
1063	Slc3a1	AGAGGAGCCTCACCTAAAGG
1064	Slc3a1	TGGCAAGCCATAGTACATCA
1065	Slc3a2	GTTCACCGGCTTATCCAAGG
1066	Slc3a2	CGCCCGAACGATGATAACCA
1067	Slc3a2	TATCACCAAGAACTTAAGTG
1068	Slc3a2	GTACTGAATCCCTAGTCACT
1069	Slc40a1	CAGGGTACGCCTACACTCAG
1070	Slc40a1	CCTTTGGATTGTGATCGCAG
1071	Slc40a1	TCATCAGGATGATTCCGCAG
1072	Slc40a1	CCCATCCATCTCGGAAAGTG
1073	Slc41a1	TGAGTCCCGAGCTAACGCCA
1074	Slc41a1	TCCCCAGGTACAAGCCACGG
1075	Slc41a1	CTGGCGATACATCTATCCCC
1076	Slc41a1	TCATTGGGTCTCGAAAGATT
1077	Slc41a2	CCCGCGCTTCTTGGTCTTAA
1078	Slc41a2	TAACTCTCGCCATATTAGCT
1079	Slc41a2	TCCTTTAAGACCAAGAAGCG
1080	Slc41a2	CTTCATCGCATCTCTACTGC
1081	Slc41a3	GGAGTTCGATTGGTCCAAGG
1082	Slc41a3	TTTCCCTTCAGACCGACGAG
1083	Slc41a3	GGTGGATGCCAAATCACTGG
1084	Slc41a3	TCTGCATAGTGATTGGTGCT
1085	Slc43a1	GGATATCCCTGGTACCTCAG
1086	Slc43a1	CTGACCCACAATGGTTACAT
1087	Slc43a1	CTTAACGTTTACCTCACTCA
1088	Slc43a1	CGGTCCATGAGAATTCCCAG
1089	Slc43a2	GTCACTAACAGCACGGTCGG
1090	Slc43a2	GCTTTGACCACAAGATCACA
1091	Slc43a2	CACACTGTGCATAAACGATG
1092	Slc43a2	GGAGGTATAGAGGGCAACTG

Number	Target gene	sgRNA sequence
1093	Slc43a3	TGACCGCTTCAAGACTACTG
1094	Slc43a3	GATTCATCTTGCACGTGGTG
1095	Slc43a3	TGCTCCAGAGCAATGTAACA
1096	Slc43a3	TACCCATAGCTGTAGTTGGG
1097	Slc44a1	CTGGAAGCAATACCGAACAG
1098	Slc44a1	GTACATGTGGTGGTACCACG
1099	Slc44a1	GTGGCACGGGTGTATTATGG
1100	Slc44a1	CACCATCGCCTTGTTCCACG
1101	Slc44a2	ATCAACAACCTTGTACACGG
1102	Slc44a2	GAACATTACAGATCTAGTGG
1103	Slc44a2	GGTGAAACGCATTACCTGAG
1104	Slc44a2	TCAAGTGCAGGTACACTCGG
1105	Slc44a3	AGGATGGCACACGTCCACAG
1106	Slc44a3	GTTCATCATGGGTTATTCGG
1107	Slc44a3	GAACCGGAAGGCGAACAACA
1108	Slc44a3	CCACCACATATACCGAATGC
1109	Slc44a4	TGGGCACGAGGAATTCAACG
1110	Slc44a4	GATGTCGAAGTATAGAACGT
1111	Slc44a4	TCTCCATCCCCAGATAGTGG
1112	Slc44a4	AGTTGGTAGTGAAGCCCAGT
1113	Slc44a5	TTGAAGACTATGCTACCTCG
1114	Slc44a5	ACTGGGTAGATTAACGCACT
1115	Slc44a5	TCAAAGTTATGGTCCCAGCG
1116	Slc44a5	TGGCCATACTCACTCATTGG
1117	Slc45a1	GAGTACCGGAGTCACGTACG
1118	Slc45a1	AGGAGTACTCACCCGCCATG
1119	Slc45a1	GGAGTGACCGATGTACCTCA
1120	Slc45a1	CCACCCCGCACACTGTCAGG
1121	Slc45a2	GCATGTTTACTAATGCCCGA
1122	Slc45a2	CTGGGCCATAAGCATCACCA
1123	Slc45a2	GGCACCCAAAATGTAGCCAA
1124	Slc45a2	GGAGCAGGAATCCCAAGATG
1125	Slc45a3	TGGTACAGAAGTTCGGCACA
1126	Slc45a3	GAGGCTTAGCAGGACACCCA
1127	Slc45a3	CAGCCACAAAGAGTCGGCGT
1128	Slc45a3	AGCCACTCTGTTTGTGACGG
1129	Slc45a4	AGGTCGCTCATGCTTCGGGA
1130	Slc45a4	CGTAGCCAATGGCCCCACCA
1131	Slc45a4	GCATGACCCATAGGCGTGTG
1132	Slc45a4	GGAAAAGTGCAACACCAATG
1133	Slc46a1	AGAGCTAACATCTGCCACAG
1134	Slc46a1	GGGCAATGGATCGATGATGG

Number	Target gene	sgRNA sequence
1135	Slc46a1	TGGACCAGAAGAGTCCCACC
1136	Slc46a1	GAACTGTGGGAACCAAAGCG
1137	Slc46a2	GATGGGCACCTATCGAACCC
1138	Slc46a2	CATGACCCCGGACCAATAAG
1139	Slc46a2	AGCCCAGGACTAAATCGATG
1140	Slc46a2	GGAGTAGTCCTGCGTCGTAG
1141	Slc46a3	CAGCGCAGTACGTGTACCGG
1142	Slc46a3	TGCTGGAATGAGGTTTACAT
1143	Slc46a3	TTAGCGAGCAGCGACAACCA
1144	Slc46a3	CAGGTTGACTATAAGAACCA
1145	Slc47a1	AGCCAGAACTTAAAGCACGT
1146	Slc47a1	GAAGATCATGACGTAAGTCT
1147	Slc47a1	GGGCGCAGGAAACATTGACC
1148	Slc47a1	GCGATGCCCGTCATAATCTG
1149	Slc47a2	CGTCCAACTCGACTTTGCCC
1150	Slc47a2	TACGGAAACAGCGAGTGTCA
1151	Slc47a2	AGGCAAGAACTTGAAGCGCG
1152	Slc47a2	GGTGCTCACCTGGCGACATC
1153	Slc48a1	CGGTGGTCTACCGACAACCG
1154	Slc48a1	TGTACATGCAGGATTACTGG
1155	Slc48a1	GCTGGGTGATGGCCAATGCC
1156	Slc48a1	TACCGAGCTGAAGCCGGAGT
1157	Slc4a1	CTCCATGGCGCATAACCGAG
1158	Slc4a1	AATAACCTGGAGTATATCGT
1159	Slc4a1	TCTACAACAGACTTGAACGG
1160	Slc4a1	CTTACCCACTAGCACCAGTG
1161	Slc4a10	AGAGAACATCTGGCACGTAG
1162	Slc4a10	CACGATGCCTGTGACGACGA
1163	Slc4a10	TGAGATTTGCTGGCGTGAAG
1164	Slc4a10	TTCCTGATACCAAGTCATTG
1165	Slc4a11	GGTCCGTGCACACCGGGACC
1166	Slc4a11	CAAAGCGGTTTAGCATAGTT
1167	Slc4a11	GCTCTTACACACCTCTCGCA
1168	Slc4a11	GAGTCACTGCCACTGTCCGA
1169	Slc4a2	GGAAGTCACTTAGGTAGTGG
1170	Slc4a2	GGGTACGGCGACACTTGGTG
1171	Slc4a2	TAGCGGATGATGGATATGGT
1172	Slc4a2	GAGCCCGCTGAGATGTTTCG
1173	Slc4a3	CCGAGACCTACTACGTTCGG
1174	Slc4a3	TGGAGCTTGACGGATTTCGG
1175	Slc4a3	CCACCCACACTCGACCGGTG
1176	Slc4a3	CTCACCCACAAGCACGACAG

Number	Target gene	sgRNA sequence
1177	Slc4a4	AGCCTGCTGTAGGCGAACAA
1178	Slc4a4	GCCTCCAAAAGTGATGGCGT
1179	Slc4a4	ACTTTGAAGTCAGAGTTGAT
1180	Slc4a4	AGAGAATGTTCAGATGAATG
1181	Slc4a5	AGCTATGCACGAAATCGGGG
1182	Slc4a5	TGGGGCTGAGGCATTGACCG
1183	Slc4a5	TTACCTTGGTGGGAAAATAG
1184	Slc4a5	CACCTCGCCCACGAGCACGT
1185	Slc4a7	TCAGGAACATAAGGTCCATG
1186	Slc4a7	TCTGCAAAGGATCGAACCAG
1187	Slc4a7	ACAGTATAGGAAAAGAATCG
1188	Slc4a7	GCAGATCCATTAGGAAACAC
1189	Slc4a8	TCATGAAAAAAATTCCCACG
1190	Slc4a8	AACGACTCAATCGCACTCTG
1191	Slc4a8	ACAGCGTGAGGGTTAAAGTG
1192	Slc4a8	CCTTCCAATACTGTAAGGTG
1193	Slc4a9	TAGGGGCCTTCGTAAGACTG
1194	Slc4a9	ACAGACTTCGAAGCTTCTGG
1195	Slc4a9	GTATTGACAGAAGCAACCAT
1196	Slc4a9	GAGGTGACAGCTCTACCCCC
1197	Slc50a1	TTATCATCGTCAATAGCGTG
1198	Slc50a1	ACTCACCAAATCAGCCAGTG
1199	Slc50a1	ACACTCTCACTTGACATCCG
1200	Slc50a1	CTGAGTTACGGAGTCTTGAA
1201	Slc51a	CACTGAAGGACACCCCGATG
1202	Slc51a	TGGTGAGGGCTATGTCCACT
1203	Slc51a	TCTACAAGTGTGAGGGCGCG
1204	Slc51a	TCAGAGTCCTCTTCTTGATG
1205	Slc51b	ACCAGGATGGAATAATTCCA
1206	Slc51b	TCCTTGGAATTATTCCATCC
1207	Slc51b	TCATCAAGATGCAGGTCTTC
1208	Slc51b	GCATTTCTTCCAGCAGTTCC
1209	Slc52a2	TGTTGTGGGTTCAGATGTCG
1210	Slc52a2	ATGGGAGACACCTCGATCGG
1211	Slc52a2	GGCCTCTCTGTGGAACCACG
1212	Slc52a2	AAGACCGTAAAAGGGGGGT
1213	Slc52a3	GTGACCTCCTGGATACAGGG
1214	Slc52a3	TGTCTCCGTGACATTGACAC
1215	Slc52a3	GCTGGTGACTGAGTTGCCCG
1216	Slc52a3	GGGTCGGAAGCGGTGCATCA
1217	Slc5a1	AGGAAGAATGCTACACACCG
1218	Slc5a1	GAGACATGTTCTTGGCCGAG

Number	Target gene	sgRNA sequence
1219	Slc5a1	CATCGCCTACCCCACGCTCG
1220	Slc5a1	CCGGCCACCACACCATACTT
1221	Slc5a10	ACAGGACAGATAAGTACGTG
1222	Slc5a10	CAGGCTCGCAGACACTCGGA
1223	Slc5a10	AGCCGGCCAATCCTACGAAG
1224	Slc5a10	GGTTCTTACCCATATGCCCA
1225	Slc5a11	CGATGCCAGAATATCTAAGG
1226	Slc5a11	GCGATGTCTGAACAGCCAGA
1227	Slc5a11	ATGTGGAAGGCATCTTCTCG
1228	Slc5a11	CCTGCACAATGGGGATCCAG
1229	Slc5a12	AGGTACTCAGTTTGTCGGAG
1230	Slc5a12	CATTATCTACATCGTACAGA
1231	Slc5a12	TCTCGGGAATTCTTAGTAGG
1232	Slc5a12	ATCCAAGGATCAAATCATGT
1233	Slc5a2	ATGATTTATACTGTGACAGG
1234	Slc5a2	CTGGCACAAAAAGCCATCCG
1235	Slc5a2	GGTCTCTTCGACAAATACCT
1236	Slc5a2	ATTGGTTCTGAACATAGACT
1237	Slc5a3	CCCCTGACCGGATGTAAATG
1238	Slc5a3	CTGACCAAGTCATCGTACAG
1239	Slc5a3	GAACACTGCATGCAAGTGTG
1240	Slc5a3	CTGTGTAGATCACTGCAACA
1241	Slc5a4a	CTGACTTACCGAATACCATG
1242	Slc5a4a	GTGGTACTGGTGCATAAACC
1243	Slc5a4a	CCCCAGCCTTGATGTAAATG
1244	Slc5a4a	TCTGAGTGTGTGAAGCATTG
1245	Slc5a4b	TCAATGGTGAGAAGCAACCG
1246	Slc5a4b	GATGCAGGCGGCCTTCACGT
1247	Slc5a4b	AAGAACCAGCACCATAAGCA
1248	Slc5a4b	ACACTCAGAAGGTACAACGC
1249	Slc5a5	CTGCACCTTGTACACGACCG
1250	Slc5a5	GCTGGCCGCTAGCTTCATGT
1251	Slc5a5	GTCCACCAGTATCAACGCTA
1252	Slc5a5	GTACATGCCATTGCTCGTGT
1253	Slc5a6	GGAATCCTTACCTGCATTGA
1254	Slc5a6	CATCCTATAGGTGATATACA
1255	Slc5a6	CTTACTTAATCCCAGAGATG
1256	Slc5a6	TCCGCTTCAATAAAGCAGTT
1257	Slc5a7	CACAGCTGTGAATCCGATGT
1258	Slc5a7	CTTGGGATCTGGATACCCGT
1259	Slc5a7	GCCCAAGCTAGACCACAACC
1260	Slc5a7	CATGGCAAGCCTACTTCCAG

Number	Target gene	sgRNA sequence
1261	Slc5a8	CATCTATTACGCCTTCGCGG
1262	Slc5a8	CGCCCCAAAACGGTAGACCT
1263	Slc5a8	TCTGAGAGAGACTTAAAGCG
1264	Slc5a8	CAGGCATCAATAACTCAACA
1265	Slc5a9	TACCTGAAGAAACGATTTGG
1266	Slc5a9	TGAGAGCCATAACCAGCTTG
1267	Slc5a9	AAGAATCTTTCACATGCCAA
1268	Slc5a9	CAGACTGTGATCATGGTTGG
1269	Slc6a1	CACCAACATGACCAGCGCCG
1270	Slc6a1	GCAGAAATACACGAGCACCC
1271	Slc6a1	TACCTCTGTGGGAAAAACGG
1272	Slc6a1	TCCATGTGTCCCGGTCAGGG
1273	Slc6a11	CTCCCAGAACTCCATGACCG
1274	Slc6a11	AGGCATTGGCTATGCAACAC
1275	Slc6a11	GTTGTTGTAACTCCCCAGAG
1276	Slc6a11	GGGTACTAAGTCGACTGGAA
1277	Slc6a12	CTGAATCACTCATCGGCCAG
1278	Slc6a12	TCTTGGGCCTCATGTAGGTG
1279	Slc6a12	GATGGAGTTTGTGCTGTCAG
1280	Slc6a12	GGGAATACCCATTTCTGAAG
1281	Slc6a13	CTTGGCCAGTACACCAACCA
1282	Slc6a13	GTAACATCACCACAGCTCGA
1283	Slc6a13	ACCCCAACATCACACGTCTG
1284	Slc6a13	CCAGAACTCGATGACAGGGG
1285	Slc6a14	CTTCTCATTCTGTTAATACG
1286	Slc6a14	CAAGAAGAACAATTTGCCCA
1287	Slc6a14	AATGCTAGCATGATTGCATA
1288	Slc6a14	TCAGTAAAGTGACACTTCAG
1289	Slc6a15	TTCCCGGTACCAGTAATAGG
1290	Slc6a15	GAAACATATAAGGACCACGT
1291	Slc6a15	TTGTTCCAAACATGCTGCCG
1292	Slc6a15	ACATAAGCCCTAAATTGGGT
1293	Slc6a17	CACGAGGGTGGCCAACACCG
1294	Slc6a17	GGCCTCTCGGTACCAAAAGT
1295	Slc6a17	TGTAGTACAGCCCAACGAAG
1296	Slc6a17	GAACATGACGGACCAGAACG
1297	Slc6a18	AGAGCGTACCTACGCCACCG
1298	Slc6a18	GTGTACCTGTGTGTCATCAG
1299	Slc6a18	GAATGCCACTCAGACTGCGA
1300	Slc6a18	TTGCAAGCTACAACCCACCC
1301	Slc6a19	ATCGGTCAGAGGCTACGCAA
1302	Slc6a19	ACAGTCATCAAAGCGCTCAG

Number	Target gene	sgRNA sequence
1303	Slc6a19	AGCTGAGCAACCCCAACACG
1304	Slc6a19	TCCGTGGCATCGAGACCACT
1305	Slc6a2	CTTCACCACTAGTAGATCGG
1306	Slc6a2	AGCAGTGGGATCCATGACAT
1307	Slc6a2	AGCCGACATAGAGGGCAATG
1308	Slc6a2	ATAAGGGAACCGCCACACGT
1309	Slc6a20a	TACATGTTCACACCTAAGGT
1310	Slc6a20a	AACACAGTAAGGCATCGATG
1311	Slc6a20a	GACAATGCTGGCAAATATGG
1312	Slc6a20a	CAACCACACAGGCTACGATG
1313	Slc6a20b	CCACTGAATAGTAATCACAC
1314	Slc6a20b	CTGTGCCAGATGTATGGCGG
1315	Slc6a20b	GATGACATTGAAGTACACAG
1316	Slc6a20b	CACAAAGTAAGGCAGTGACG
1317	Slc6a3	TAGATGATGAAGATCAACCC
1318	Slc6a3	GCTCGTCAGGGAGTTAATGG
1319	Slc6a3	CAGGGAGGGTGACTCCACGC
1320	Slc6a3	TTACTCAAAATACTCAGCAG
1321	Slc6a4	AGTTCCCAGTACAAGCGCTG
1322	Slc6a4	AGGAGTCAAAACGTCTGGCA
1323	Slc6a4	TACATATGCTACCAGAATGG
1324	Slc6a4	CCGCATATGTGATGAAAAGG
1325	Slc6a5	GGGATGGTCACCGATAACAC
1326	Slc6a5	GTGTACGCATCACTGGCGAA
1327	Slc6a5	GCTTACCGGTATGGTAGTGG
1328	Slc6a5	GAGGACGCGAACGTGAGTGT
1329	Slc6a6	GGCCCCCAGGCAGATTGCGT
1330	Slc6a6	GGCCAGTACACATCAGAAGG
1331	Slc6a6	AAACAGAATAGACCAAAAGG
1332	Slc6a6	CATGGCAAACGGGAAAGTAG
1333	Slc6a7	TCCAGCGAATCTCCCCCGGT
1334	Slc6a7	TCACCTTTGAAGATAACAGG
1335	Slc6a7	GTAGACTTCGCAGCAGACAG
1336	Slc6a7	TACCGAGCCTACACCAATGG
1337	Slc6a8	GGAAGCGCCACACGTTACCG
1338	Slc6a8	GCATCAGTGTGACAGCCCGT
1339	Slc6a8	GCACAACGAGGACCACGTAG
1340	Slc6a8	ACTCGATGACAGGGGACCGG
1341	Slc6a9	ATACCTCTGCTATCGCAACG
1342	Slc6a9	GTAGTACATGATACCCGTGA
1343	Slc6a9	ATGGTGGTGTCCACATACAT
1344	Slc6a9	TGTGCTACCAGCGTCTACGC

Number	Target gene	sgRNA sequence
1345	Slc7a1	GCCATGGCATAGATAACTCG
1346	Slc7a1	CACAAACGTGAAATACGGTG
1347	Slc7a1	TGACGTGAGAACTCTCCGAT
1348	Slc7a1	CCAGGTCCTTCAGTTCAAAG
1349	Slc7a10	GTGTACACAAAGGTGACCAG
1350	Slc7a10	TGATCCCTCCAAAAGTAGAG
1351	Slc7a10	TGAGCCAATGATGTTCCCTG
1352	Slc7a10	GGCCATGGAGAGTACTCGAG
1353	Slc7a11	TCATTACACATACATTCTGG
1354	Slc7a11	GAAGAGACACAAGTCTAATG
1355	Slc7a11	GGGCTACGTACTGACAAACG
1356	Slc7a11	ACAGGCAGACCAGAAAACCA
1357	Slc7a12	TGATGATCCTAGATATGAGT
1358	Slc7a12	ATTTACCTGCTATGACGATG
1359	Slc7a12	TGGCTTCAAGCTAACCTTAA
1360	Slc7a12	ATTCTACTCTGCAAGTCAAG
1361	Slc7a13	GTGGGAATTCTGAATTCTCG
1362	Slc7a13	GGAACAGTCCATGTGAATTG
1363	Slc7a13	AAGTACACGACAGTTACCAG
1364	Slc7a13	AGGAATATTTGTGTCCCCCA
1365	Slc7a14	AAATGCCACGAACTCCCCAA
1366	Slc7a14	GGGATGCCGTGATGGCGTAA
1367	Slc7a14	CTTCGCAGCATAGAAGCCAT
1368	Slc7a14	TCTGGGAGTGAAAAACTCTG
1369	Slc7a15	AGTGATGACTGCCGTCCCCC
1370	Slc7a15	TCGCAGCTGCATAGCACACG
1371	Slc7a15	TGCTATGCAGCTGCGAGAGA
1372	Slc7a15	GCAGGTAACTGATATTGACC
1373	Slc7a2	AGGACGTCACTATTCCGATG
1374	Slc7a2	GAACGGAACAAGCATCTACG
1375	Slc7a2	GTATCTATACACTTACGTCA
1376	Slc7a2	CCGAGACAACATATTTGGCG
1377	Slc7a3	ATCTATCTCACCAATGACGT
1378	Slc7a3	GCCATTGAATACATCACCCG
1379	Slc7a3	CACCCAGAGCCACTAAGTCG
1380	Slc7a3	AGTGCCGTTGGATTCACTCA
1381	Slc7a4	AGGTATGCTGAGCCAGTACG
1382	Slc7a4	GCACAGCCTAGACCCTGACT
1383	Slc7a4	AATAACATCAAATCCCACGA
1384	Slc7a4	GCCATGGCGTAGACAATGCG
1385	Slc7a5	GCCCTCCTCGCAGTACATCG
1386	Slc7a5	ACCCCTACTTACGCACGCAG

Number	Target gene	sgRNA sequence
1387	Slc7a5	AGCGGCCTCTTCGCCTACGG
1388	Slc7a5	GTAGCAGAGTGCGCCCACGA
1389	Slc7a6	AACTGAACATGCCGAATGTC
1390	Slc7a6	TGCATTTAGGCCCCCGAAGC
1391	Slc7a6	ACGCCTTTAAAGGTTCCTCG
1392	Slc7a6	CAGCCACAGCGTCACTCTTA
1393	Slc7a7	AAGAGATCAGGAACCCCGAG
1394	Slc7a7	CAGCGCCAACACCTTAGCAT
1395	Slc7a7	GGCCCCGGATTTCTTAATGG
1396	Slc7a7	GAGACACACGCCATTAAGCA
1397	Slc7a8	TGGAGCAGTTGACCCATGTG
1398	Slc7a8	CCTGAAGAAAGAGATCGGAT
1399	Slc7a8	TATGTGAAGGACATCTTCGG
1400	Slc7a8	GACTCCACCAAACGTGGACA
1401	Slc7a9	GAGCACTTACCAACCATCGT
1402	Slc7a9	CAAAGGCCTCCATCAGATAG
1403	Slc7a9	GGACTGCAAGAGCTCCGTTG
1404	Slc7a9	GCTGGCCAACACAGAATCCG
1405	Slc8a1	CTGATTATGAATTCACGGAA
1406	Slc8a1	AATCGCACTCTGTGTTTACG
1407	Slc8a1	ACTCACGTGAGCGAGAGCAT
1408	Slc8a1	CTGCAATAATAGAAACTCCA
1409	Slc8a2	GTGGACTACCGTACCGAGGA
1410	Slc8a2	TTCCACTGCGAGGGTCGGTG
1411	Slc8a2	ATCCTGGACGACGACCACGC
1412	Slc8a2	CGGCAATGATAGACACACCC
1413	Slc8a3	AGAACAATGAGTCCTGTTCG
1414	Slc8a3	TACCGCACAGATAAACACCG
1415	Slc8a3	GTACGTGGACTACAAAACAG
1416	Slc8a3	CTGGGACCATCTACCATCGT
1417	Slc8b1	TGACCACGTAGAACACGTAG
1418	Slc8b1	CCACACACGGCTCGGCACTG
1419	Slc8b1	TGGACCCCGACAAGGACGAT
1420	Slc8b1	CCACACTCACAACTTGGCCG
1421	Slc9a1	ACGGCCAACAGGTCGACCAG
1422	Slc9a1	GGGGCGCATCACTACTCCTG
1423	Slc9a1	CGCCCACAAACACCCCACCG
1424	Slc9a1	GAAGGTCCAGTTCCACTGGT
1425	Slc9a2	GGTCAGCACCTACCCGACAG
1426	Slc9a2	TCGAAAGGGATTTGCACGTG
1427	Slc9a2	AGTTCATCATTGCCTACGGA
1428	Slc9a2	ACGCCATGATGCCTGAAAGG

Number	Target gene	sgRNA sequence
1429	Slc9a3	CTTCATAGTGTAGCGCACAG
1430	Slc9a3	CATTGCGCTCTGGATCCTCG
1431	Slc9a3	ACTTACCCATCAAGCCACTG
1432	Slc9a3	CTTGGTGAAGCGAGTCACCA
1433	Slc9a4	AGTGAAACGTGTGATAAATG
1434	Slc9a4	TTAGTATGTTGTATAAGACC
1435	Slc9a4	GACCGGAGGCGATTTGTGGT
1436	Slc9a4	GAGATGCGAGCAGTATCCAG
1437	Slc9a5	TGCCATCCTCACCTACGCCG
1438	Slc9a5	CTCGATGATGCGGACCCGCT
1439	Slc9a5	AATACTGACCGACGCCCTTT
1440	Slc9a5	CCGCATCATCGAGCCGTTGC
1441	Slc9a6	GGAAAGTGTCCTCAATGACG
1442	Slc9a6	GAATGCCGTACCGAAGCACG
1443	Slc9a6	TTTAACCCAACATTTGTCGT
1444	Slc9a6	CATATGCTAAGATAGACCCA
1445	Slc9a7	TACTTACGAGGATAGTACAA
1446	Slc9a7	CATGAAGGAAACGCACCCGG
1447	Slc9a7	CAGAAATCTTATGTATGGAG
1448	Slc9a7	CCCTGGCAAGATCAACAACG
1449	Slc9a8	CTTATTCACCTAGGACGAGG
1450	Slc9a8	CGCTCGACTGCTCCTCCTGC
1451	Slc9a8	CCACCTATTATCTTTGAGTC
1452	Slc9a8	TATCCTGACTCAAAGATAAT
1453	Slc9a9	GCGCCGACTGATATTGATAG
1454	Slc9a9	ATGTTGACTAGTAGAGTTGA
1455	Slc9a9	CACTTACCCTATGACCACAC
1456	Slc9a9	CCTCCCATCATATTTCATGC
1457	Slc9b1	TATACTTACCAATGAGAGGT
1458	Slc9b1	AAGAAGGGAAACACAAACGA
1459	Slc9b1	CCCAATAAGAACGTCCCGCA
1460	Slc9b1	TCTAGGAGAGACTTACGCAG
1461	Slc9b2	ATACCTTTGAATCTAGACCA
1462	Slc9b2	CTGGCAAGAGTGATAACGAA
1463	Slc9b2	CCAACCTTACTCATGGCCGC
1464	Slc9b2	CAGCGGTGAAAAAAGCCAC
1465	Slc9c1	ATGTGCTCATTAATACCACA
1466	Slc9c1	CCAACGACAGTACAGGAATG
1467	Slc9c1	GACCAAGTCGAGACAAGATG
1468	Slc9c1	CTTACCAAGGTCTCTTATGG

Target gene	sgRNA sequence
BRDN0000737412	AACGGGCGCAATACCCTTTT
BRDN0000737434	AAACTCCCGTGTCAACCGAT
BRDN0000737467	AAACCTAGCGTAGATTCGGC
BRDN0000737483	AACCGTACTGCGAGGAGCAT
BRDN0000737505	AAAAAGTCCGCGATTACGTC
BRDN0000737516	AACGCCCCGGATTTCGTTGA
BRDN0000737528	AACCCCGGCTGTCATCGCCG
BRDN0000737609	AAACTCATACGTAGCGAATC
BRDN0000737611	AACCAGCATTTGACCGCGCT
BRDN0000737637	AAAACGTAATTATACCGAGC
BRDN0000737693	AAAACGGCTCGATCGGTGAT
BRDN0000737727	AACCGGCTGCGCGTTTGCAA
BRDN0000737777	AACATGTTAAGTCGCGTTAT
BRDN0000737801	AAACCCCCGCGCGGAGCGTC
BRDN0000737844	AACGGCTGCGCCCGCGGCAA
BRDN0000737848	AAACGAGGCTGTTCGTACAC
BRDN0000737872	AACCTCGTCTCATGTACGAA
BRDN0000738185	AAAATTGCACCTTCCCGGCC
BRDN0000738228	AACCCGCCGGAACAATCAGC
BRDN0000738254	AAAGACGTGCATTCAGCGAG
Slc10a1	TACAGCAAAGGAATCTACGA
Slc10a1	TTAACCCTCGGTCCTACCTG
Slc10a1	AGGACGTAGGGTACATAGTG
Slc10a1	GAGGGGCATGATACCGTACT
Slc10a2	CTATTGGATAGATGGCGACA
Slc10a2	GTTGCTCTCAGGTACTACGC
Slc10a2	TAGGACATATAAAGAGACCA
Slc10a2	GCTCACCATCCTCTTAGCCA
Slc10a3	CTGTTCATCAGCCTACCATG
Slc10a3	GTGATCTCTAGCCAATACAC
Slc10a3	TGGTGTTGAGAGCAGAAGGG
Slc10a3	TGAGAGTGGTAGGAAACCAG
Slc10a4	AAGCATCGGCTTTAGCCCCG
Slc10a4	CATGTCGCCGTCTACCAGCA
Slc10a4	CTCACCCTGTCTCCCAACGC
Slc10a4	AGGCACGGCTGTAGATCCAG
Slc10a5	TAGACACAATCTTTAACACA
Slc10a5	ACCCCAAGAAGTATTGGCAA
Slc10a5	GGATCATCGATAAGACAAGC
Slc10a5	GTCAACCTGAAGACTTTCCC
Slc10a6	TGCTCTGATACGGAATGACG

Target gene	sgRNA sequence
Slc10a6	CTGTGACATGGCCGACCAAG
Slc10a6	CAGTAACTGCCACCACCAGG
Slc10a6	GAAGGTGAGAACATTAGAGA
Slc10a7	CCGTCGGTCGGAGTGAACGG
Slc10a7	GTTGAAGAATATCGTTGCGA
Slc10a7	GAAGAAGCCACCATTTGGTG
Slc10a7	AACTGCCTTGGTTAAAATCA
Slc11a1	GGGTGTGCTACCACATACTG
Slc11a1	GAGAAGTAGACAGAACCCGC
Slc11a1	CCTAGCATGATACCGTCCAG
Slc11a1	GAATGGGGATCTTCTCACTC
Slc11a2	ATGTCACCGTCAGTATCCCA
Slc11a2	AAACACAAAAGTGTCTGCGA
Slc11a2	TGAGAAAATCCCCATTCCTG
Slc11a2	CCTTGACTAAGGCAGAATGC
Slc12a1	CATCATCGGTTCCATCACCG
Slc12a1	ACAAACGGAGTGGTGCGAGG
Slc12a1	GTGGGTTATATCCAAGAGAG
Slc12a1	CCATGGCTATCACAAAGTG
Slc12a2	CGGTTTCCGAGAACGCCGGG
Slc12a2	AAACGTCCCTATGACGAAGT
Slc12a2	GTTAAGATGTAACCACGAAG
Slc12a2	TCCGACAACATACATAGCAA
Slc12a3	AACCTGGTACCCGACTGGAG
Slc12a3	CGGTTACAACACCATAGACG
Slc12a3	TGTGGTCTTCCACCTCGTTG
Slc12a3	CACAGGCTAGCCCTTCGCAG
Slc12a4	AGCAAACGGTGAACCGACGT
Slc12a4	GGTGGCGCTTGACATGTCAT
Slc12a4	GTTACTCACGGAAACACGGG
Slc12a4	CCCAGAAGTCTATCCCAGTG
Slc12a5	CCAAAGGGGTGATTGTCGAG
Slc12a5	AGCCATGGCGAGACAGCGTG
Slc12a5	TGGATTACAGAGCCTCACAG
Slc12a5	GCAGGATCTCGATCGTGCCA
Slc12a6	AATCCCCAGGATGTTACGGA
Slc12a6	AACTATACAAATCTGACACA
Slc12a6	AATGGGGGGATGGTATCCGT
Slc12a6	CAAGATCGACACAATTACAC
Slc12a7	AATGAAAGATGTAGTCACGA
Slc12a7	AACAACGTTACTGAGATACA
Slc12a7	TGGTCATGGAAAGGCCAACG

Target gene	sgRNA sequence
Slc12a7	AGCAGATGAACATCAGCGCG
Slc12a8	CATCTGCCCACCAAGCACCG
Slc12a8	CAGTGAAGAATGACTCCCCG
Slc12a8	GAAAGGGCCAAATAAAACAC
Slc12a8	CCAGTTCCTCTATTGGCTGG
Slc12a9	TAGATGCCGATCAACACGAG
Slc12a9	GCCATGCCGGTGTGGCACGG
Slc12a9	GCTCTTCTCACCGCACGAGG
Slc12a9	AAACACGACTATGCTAAACA
Slc13a1	AACATGGGGAACATTAACCC
Slc13a1	TTGAATCTGTAACATAACCC
Slc13a1	AAGAATTAGAGCAACCGGGA
Slc13a1	GGTGGGCTGACAACAATCAC
Slc13a2	TACACCACAGCAGCGCCATG
Slc13a2	ACCCCCGACGAACAATATGT
Slc13a2	GGGTGTGGTACCCGTCAGGG
Slc13a2	GCTAGCACGGACTCACAGGG
Slc13a3	AGTTTCTTGCCAGTTCGGAA
Slc13a3	TCCAGAGCCAGCCCACCAGT
Slc13a3	GGCTAAAGCGGTGATCCAGG
Slc13a3	CCACCGTACCTTGGGCGGCA
Slc13a4	AAACAACAGACAGACGTCCA
Slc13a4	GACGGTGCTGTGGTTTACCC
Slc13a4	GGTGGTCAGGCCACCAATGG
Slc13a4	CTCAGACACCCAGTACACAG
Slc13a5	GATAGCCGCCAATACAGCTG
Slc13a5	GGGTCCCGTCCCGGTCAAGG
Slc13a5	AGTCCAGAACCTTCAAAAGT
Slc13a5	AAGAAGGTGTGTTTACCGTG
Slc14a1	AAACGTATTGTAGTGTCCTG
Slc14a1	TCATAGACATAGCAGATACA
Slc14a1	AGGAGAGCAGGATAGCACAT
Slc14a1	GTTGCTGACAAACACCACCT
Slc14a2	GTCCCAGCAATCGTCCACCA
Slc14a2	GAGTACCATCTTCGCCAAGT
Slc14a2	CAGCAAAGTCACCTACCCGG
Slc14a2	ACTCACAAAGAGCTCCACTG
Slc15a1	TTGTCCAATCGTGTAGACGA
Slc15a1	GAAGTAAGGCATATCCCAAG
Slc15a1	CCACCAAACGCAGACACACA
Slc15a1	CTGGGACGACAATCTCTCCA
Slc15a2	AGGAGGTATCAAACCCTGTG

Target gene	sgRNA sequence
Slc15a2	ACATTCCAAAGCGACAACAT
Slc15a2	TATCGGCTGATCTCCAAGTG
Slc15a2	CTGATGGACTCCACCAAGAG
Slc15a3	GGTGGTGAGCAACAAGCCAG
Slc15a3	CAGCAACACCAAGTAGAGGG
Slc15a3	CAGAACATCAGCTTCCTATG
Slc15a3	CAACAAAGAGATGTTAGGGT
Slc15a4	GCGTGGAGGGCCGTTCACAG
Slc15a4	GACACGACGCTGACCCGTTG
Slc15a4	TATCACCACCACCCATCACA
Slc15a4	CCAATTGAAAAATCTCCGAG
Slc15a5	CAAACGCCCTGGCGATCGTC
Slc15a5	ACTTACTCATGCACGCTGAC
Slc15a5	ATGGCGTTCATTAGCGCAAT
Slc15a5	GGTTCTCTGGCCGATAGATC
Slc16a1	ACTACTAAGAAAGACCAAAG
Slc16a1	CACCAGCGATCATTACTGGA
Slc16a1	GACTTGCAGCCAACACCAAG
Slc16a1	AGGCCCTATTGGTCTCATCA
Slc16a10	TGGCATCCAGAACGCCTACG
Slc16a10	GCCACGTCGGAGACATCCGA
Slc16a10	GAGGTGCTCTTCATGTGCAT
Slc16a10	TGAAGCTCTTTAACACGCTG
Slc16a11	TTCGTTCAAAGTGCTCCGCG
Slc16a11	CTACCGCCAAGACCCGACGG
Slc16a11	GCGGACCCAAATGAACGTAG
Slc16a11	GCCAGCCGAAAGTATCAAGG
Slc16a12	CAACAATATCGATTACCCCG
Slc16a12	GCCAGGAAAACTGTTCGATG
Slc16a12	GCTTACCTGTAAGAACTCCC
Slc16a12	ACCAGTTATCCTGTCAAGCG
Slc16a13	CAGATGCCACGCGCCCCACG
Slc16a13	GATCGCTTCCATAGGGATCG
Slc16a13	CTGACAGCAGCCCAATACTC
Slc16a13	CATTCCATACGTCCACCTGG
Slc16a14	GGCCCTAGGAGTCCTCAACG
Slc16a14	AAAGGCTACAAACATGCGGT
Slc16a14	AATAAAGAGAGACTGCACAT
Slc16a14	AAGCCCCACCCAGATATCGA
Slc16a2	GTAGGGGACGAAGTAACCAA
Slc16a2	CCTCTACTCCATGCTACTAG
Slc16a2	CCACACCATTGGCTAGACCT

Target gene	sgRNA sequence
Slc16a2	GCCTGCGCTACTTCACCTAT
Slc16a3	TATGGGTGTACCCGACACAA
Slc16a3	CTGAGTGTCTTCCGAGACCG
Slc16a3	AGTATCGATTGAGCATGATG
Slc16a3	AAAAGACGCTGACCGCCTTG
Slc16a4	AAGGAACGTCCCAAGAATGG
Slc16a4	CAATTGCCCGTTCTGGAATG
Slc16a4	CTGGCTACTAGGTGGAAAGT
Slc16a4	TTGCCATTGCTCATAAGTAA
Slc16a5	GCCGTACGCTATGCATCATG
Slc16a5	AGGCTCCACATACACAACAG
Slc16a5	GGCTTCTGCATATACGTCAC
Slc16a5	CTGTGATCACTCCTGCGGTG
Slc16a6	GCTGTCGACGATGGCCATTG
Slc16a6	ACAGAATGGTCACAGTTGGG
Slc16a6	CAATTATTATCCAAGGGCCG
Slc16a6	TGAGTCGATGGAGTCTATTG
Slc16a7	ATTACCTCCAATGAAGCCAA
Slc16a7	AGAGGTACTGGATTCGTGGA
Slc16a7	GCTCAGTACGCTAAACACAT
Slc16a7	TTCACCAACACACTACTGAT
Slc16a8	AGAGACCCCTCGCCCCACGG
Slc16a8	GACAGCCAAAGCGCGTCACG
Slc16a8	CCTGCTGGTGAACTACGCCA
Slc16a8	GAAAGCAACGAGGGTCCCGT
Slc16a9	CTAACGGGGATCCGTAAGAG
Slc16a9	GGACAGTCGGAGGTTTGCAA
Slc16a9	AAACAGAAAGTAGATATTGG
Slc16a9	TACCTGTTGAAATCAGGCCG
Slc17a1	ACAGATTCGTTAGATAAATG
Slc17a1	ATTGTGTGTCGAGTACTCCA
Slc17a1	TGGGCACCTCCCTTAGAACG
Slc17a1	ATGTCGGCGTGTATGTAACC
Slc17a2	GAATCAAGGACTTTAGTACC
Slc17a2	ATCCCCGCTAAATATCCACT
Slc17a2	TGTGGGAGGATTAATCTCAC
Slc17a2	ATCTGACCATCGCCTTTATG
Slc17a3	TATGGCATGATACTGATGCA
Slc17a3	TCTGCACTATGACCCATCAG
Slc17a3	AGCGCATGGAACATAAACTC
Slc17a3	ATGTACCTGTTGGTTCAGAG
Slc17a5	TCGTCACCCAGATTCCCGGT

Target gene	sgRNA sequence
Slc17a5	TAGAACGTCTAAGGAGTGTG
Slc17a5	GATCGTTATCTTACCCGCAT
Slc17a5	GCTGGCCGCAGACTTAGGCG
Slc17a6	CAGGAGGATATATCGCATCG
Slc17a6	AGAAATTTAAGACCCCATGG
Slc17a6	AAGCACGTGCAGTCGCATAG
Slc17a6	AACAACAGCACTATCCACCG
Slc17a7	TGGCGATGATGTAGCGACGA
Slc17a7	GGAGGAGCGCAAATACATTG
Slc17a7	GACACAGCCATAGTGAACGC
Slc17a7	TCCATCCTGAATACTGCACA
Slc17a8	CAGCAATGATGTACCGTTTG
Slc17a8	AATGATGGCATAGACAGGCA
Slc17a8	ACTCGCTGGGCATCTTACAA
Slc17a8	TCAGCCAGTTGTCCTCCGAT
Slc17a9	GATTCGAGAGAATGTCAGGA
Slc17a9	GGCAACAGTACAGACGGGCA
Slc17a9	TTGGTTACCGATCCCCAAGG
Slc17a9	TCTGGGCGTACTATGTGTAC
Slc18a1	GGACAATATGCTGCTCACTG
Slc18a1	GTAGTTATCCGTATAGACAC
Slc18a1	TCATAAAGCCAACAAACATG
Slc18a1	CTAAAAACAACTGCTTGCAA
Slc18a2	CGAGCCATACGTACCTACGA
Slc18a2	CCATCTGCTTTGCAAACATG
Slc18a2	GTACATACCTAAGACCCCCA
Slc18a2	ATGCAGAATCCAGCAAACAT
Slc18a3	AGATAGACGCCTAACACGTG
Slc18a3	GGTCGGCTCGGTCAATCCTG
Slc18a3	GCTTGCCCGCGAACTCGTAG
Slc18a3	CTATATCGCTCACATGCGCG
Slc18b1	AGTCTGTCAACTGGATACGT
Slc18b1	TAACCCAAGAGTCCGATCCA
Slc18b1	GTGAGAATAGTAGACGCCAT
Slc18b1	GTATCAATCCTTTGGCTACG
Slc19a1	TCTTTCTAAAGCGCCCTAAG
Slc19a1	CCTGGAACGTAAATTCACCA
Slc19a1	CATGGCCAGCTACTCACGGG
Slc19a1	CCGGTGCATACTCAGCAGTG
Slc19a2	GGAGTAGTAGGCGATTTCGG
Slc19a2	GACTCAGCCTGATTGTGACG
Slc19a2	CAAGTGGTGAACTACGCGCA

Target gene	sgRNA sequence
Slc19a2	GCAGGAACCAGCACTCGCGA
Slc19a3	CTGTCGGAGTATCACACTGG
Slc19a3	TGCCAATTCAAAGAATCTAG
Slc19a3	ACCAGAGGGACCAGTAAACA
Slc19a3	ACAACGTGTAGCATGATGAC
Slc1a1	CGACTCACCTAGTACCACGG
Slc1a1	TAGGATTACAGCAATGACGG
Slc1a1	ATCATGCTGGATACGATCAG
Slc1a1	TCACCTGATCAGGTCCAACA
Slc1a2	CATGTTGATAGCCTTCCCGG
Slc1a2	CCATAGCTCTCGTGCCTAGG
Slc1a2	TAATTGCCCATAGGTCTGAT
Slc1a2	GTTCATGGTTTCATTCAACA
Slc1a3	GTATAAAATGAGCTACCGGG
Slc1a3	GACTCTGACCCGGATCCGGG
Slc1a3	GAGGCCGACAATGACTGTCA
Slc1a3	AGGCTTCTACCAGATTGGGA
Slc1a4	GTCTGCAACCGATTACACAG
Slc1a4	TAGAGCCACTCCTAACACCA
Slc1a4	GATGCCACCCAGACGCCCGA
Slc1a4	ACCCACCAACACTCCCGACA
Slc1a5	AATCCCTATCGATTCCTGTG
Slc1a5	TACAACAGAGTCGTTGATGG
Slc1a5	GCGGGAGATCAATTCAACCA
Slc1a5	GTGGTGTGCAGCCTGATCGG
Slc1a6	ACAGCACACGAGTGGTGACA
Slc1a6	ATTGGTGGCATGAAGCACAA
Slc1a6	CCATGACCCGAGAGCACGTG
Slc1a6	GAAGGGAAAGGGGTTCCGAT
Slc1a7	GTGACAACACATACCCATCG
Slc1a7	AGTCCACAGGTAGTATGCCA
Slc1a7	CCGGCGGATCGTCATCTATG
Slc1a7	GTGATGAGGAAGTACAGTAG
Slc20a1	GTAGAAAGGTTACCTTACGG
Slc20a1	TCAGTATCACACCGTGCACA
Slc20a1	CCGGAACGGCTTGATAGATG
Slc20a1	GCCACATATTGCCATAGTGT
Slc20a2	ATACTGTACACAAAGACTCG
Slc20a2	GCCTTACCATAGGAAGCCCG
Slc20a2	AAGTGGCGATATAAACCAGG
Slc20a2	ATGGTAGCAGCATAAAACAG
Slc22a1	GAAGAAGCCCAAGTTCACAC

Target gene	sgRNA sequence
Slc22a1	TGTTAACACGCCAGACAGGG
Slc22a1	CGGAACAGGTCTGCAAACGA
Slc22a1	TCTTTAGCTCCCATCTACGT
Slc22a12	GGGCCTGGGAGTTACATACC
Slc22a12	ACGGTAGGCAAGCTGGACCA
Slc22a12	GAGGTGCTATTGTCCAGGAG
Slc22a12	CATCACCAAAGGGCTACCCT
Slc22a13	CCTGAAGAAGACCTCCCAGT
Slc22a13	AGTAGCCAAGACAAAGCGTA
Slc22a13	GAAGAGCAGTAAGACGGGTG
Slc22a13	ATCTTGGAGAACACAAGCCG
Slc22a15	TAGCTCCAATCAGTGCAATG
Slc22a15	CCGATCTTACAAAGTCAGCG
Slc22a15	CCTCGTTGGTTATACTCCCA
Slc22a15	GTCTTGCTAAATGAGTGCGT
Slc22a16	GCTATTTGTTGAAAACGTGG
Slc22a16	TCTTATCACTAGATGTGACG
Slc22a16	ATTTACGCTTACCCACTAGG
Slc22a16	TAGACGTAGCCATCGAAGCA
Slc22a17	TTCTCTCAATGACTCTCACG
Slc22a17	GAGGCCCAGGAAGCTTTGCA
Slc22a17	GCAGACTCCAGAAACAGACC
Slc22a17	ATCGCCAGTCCTTAGAGACA
Slc22a18	CTAGGTCACTTACCCGTATG
Slc22a18	CAGGTTCGCAGACCAGTGCG
Slc22a18	TACCTGGAAGTGTGTGCATG
Slc22a18	GGCCAGAGATTACCTTGACC
Slc22a19	ACTGTGGTTGAATATAGCGA
Slc22a19	TGTACGGAACAAGTCCAGTG
Slc22a19	GTTGGACAGACACTGTTGGG
Slc22a19	GTTAATCTGCCATGCCCTGT
Slc22a2	TTGGTGTTTCGATTTCTACA
Slc22a2	AAACGATGCCCACATAGATG
Slc22a2	TTCAGTCATTAGTGAACGTG
Slc22a2	GGAGACTCCGGTATGCACCT
Slc22a20	CTGGCGTGGCATACCTGATC
Slc22a20	GCTGGACGTACCAAGAATAG
Slc22a20	GGTGTGGTCGTACCTGCAGC
Slc22a20	GAGCCAGGTCACGAAGGGTG
Slc22a21	GGGACATATATCCAACTACG
Slc22a21	ACAACCCAGTAAAGCCATTG
Slc22a21	TTCGGACCAGATCATAAATG

Target gene	sgRNA sequence
Slc22a21	GAAGCTGAATCCGGTGTGCA
Slc22a22	ATTGGGTGTACCTAAAGCGT
Slc22a22	CTAGTCCCCCAAGTACACCC
Slc22a22	ATCATGAGGGGATAACACCA
Slc22a22	AGGGAACAATACATCAACAA
Slc22a23	GCCCGATTTCTGGTGCCGCG
Slc22a23	TCGAGAAAGAGCTTTCACGG
Slc22a23	AAATTGCGACTGCCACGCGT
Slc22a23	AAAACGGTTCATAATTACCA
Slc22a26	ATGAGAACTCATTGACAGTG
Slc22a26	TGGAACAAGTCACGTAGAGA
Slc22a26	CCAACTCTAATAATAACAGT
Slc22a26	ATGGCTGGGTGTATGACCAG
Slc22a27	TCCCCCTGGATTCCAACCTG
Slc22a27	TGTGGTACCTCATATTGCAA
Slc22a27	ATACACCCAACCATCCACAC
Slc22a27	GTTCCACAGACAATCCTGCC
Slc22a28	TGGACAAACCCTAAATTCCT
Slc22a28	GGTGGATGTCAGAGTCAGCT
Slc22a28	CAAGTTACTATTTACTGATA
Slc22a28	TCTTCTTCTTTATACTCACA
Slc22a29	ATACATCCATCCTACGTAAG
Slc22a29	TCCAATATGTGGTACTACAA
Slc22a29	GAATTCTGGAGACCTAACCA
Slc22a29	AAAGCACTGCCATCATGGCT
Slc22a3	AGGACACCAGAGGCGCGGAG
Slc22a3	AGGAAGAATAATGATCCCGA
Slc22a3	CCTCTCATCAAATTACTCAG
Slc22a3	CCCATTACCAGTAATAGAGG
Slc22a30	TGGACAAGCCCTAAATTCCT
Slc22a30	GGACCTGGTGTGTGAATCTC
Slc22a30	ACACTCACCTGTCTGACAAA
Slc22a30	CTACTGCTTACTTCGATTCC
Slc22a4	CAGAGCAAAGTAACCCACTG
Slc22a4	GAGAACGCCTACGAAGAACA
Slc22a4	CGCAAAGATGAACAGCATCG
Slc22a4	AACCAGGCAACGGTGCTCGG
Slc22a5	TTTATGATCTGATCCGAACA
Slc22a5	GGGTCAGATCTCCAACTACG
Slc22a5	CACAAGGCAACGGTGCTCCG
Slc22a5	CACACCCACGAAAAACAAGG
Slc22a6	AAGGAACTGACTCTAAACAA

Target gene	sgRNA sequence
Slc22a6	ATTCACACCCGTGCCTATGT
Slc22a6	TCTTCATTGAGTCAGCCCGC
Slc22a6	CCCGTAGTAGGCAAAGCTAG
Slc22a7	CGGAACAGGTCTAAGTACGA
Slc22a7	CCGTATCAGGTACCCAACCA
Slc22a7	GAGCCTGGGGATAGGCAAAG
Slc22a7	TGCATCGGGAGCAGGAATCG
Slc22a8	TCTGAAGACACTCCAACGTG
Slc22a8	GATCTGTAGCAAGTTGTGGT
Slc22a8	AATGGGTACCCACCTCCACG
Slc22a8	CGTTTGGCAGATGCACGAAG
Slc23a1	CTGGCATCCTCGTATCCGGG
Slc23a1	ACAGGCATAGTAATCACCGA
Slc23a1	CTCATCCAGTCCCAACATTG
Slc23a1	AGGCTCGAACTGATGCCCGA
Slc23a2	CTGGCATCCCCGAATCCAAG
Slc23a2	GTGTTTCAGTGGCACGATCG
Slc23a2	ACAGGCGTAGTAGTCACCGA
Slc23a2	GCGTGCATAGTAGCCATAGT
Slc23a3	GGGCACTATAGGACTTCTAG
Slc23a3	GGAAGGCCCACACACCCGAG
Slc23a3	ACCTACCTACCGAAAGGAGT
Slc23a3	GACTCACTGTGCCTACGTTG
Slc24a1	CACACAAGTCCACCGATGTG
Slc24a1	AGTGTGGAGGATCGACGACA
Slc24a1	GGTGAACACATAGAGAGCGT
Slc24a1	AAAGCTATATCCCAAAACCC
Slc24a2	TCGAAGCCACGCCTCCAACG
Slc24a2	TGAGAATGAGAGGCAGAATG
Slc24a2	GGATAACGTTATCATGTGGT
Slc24a2	AAAGAACTCATCACAGACGA
Slc24a3	AATCCCAATTAAGCACACAG
Slc24a3	GGCCCCAGAGCTGTTCACGT
Slc24a3	CAGCAACTGCGATGCCACTG
Slc24a3	TCCAATGAAGACCGACGACA
Slc24a4	TCTCATCCACCATAACCACG
Slc24a4	ACCCACGGAGATGTCGGTGT
Slc24a4	TCTGTGCAGTTCTTAGCCAG
Slc24a4	AAACGGGAGACATGAGAACA
Slc24a5	CCTTCGGGAAACTCCGATGC
Slc24a5	TGAACTAGTTACCGCCTTCT
Slc24a5	CAACATCCTGCGACAGTCCA

Target gene	sgRNA sequence
Slc24a5	GAAGTACTTGTCGCAGACGA
Slc25a1	ATGAACGAGCGAACCCACCG
Slc25a1	GAATAATCTCTCTAACCCCG
Slc25a1	ACTGCGACTGTACTGAAGCA
Slc25a1	CTTCACGTATTCGGTCGGGA
Slc25a10	CATGCGGGACTACATGACCA
Slc25a10	TACACGGTACAGACCATCCA
Slc25a10	GTCAGAGAGTAGGTCATCTG
Slc25a10	GACATTGACCAAATCTGCTG
Slc25a11	ACAGACTTAGGGGAGGTACG
Slc25a11	ATTTGTGGGAACGCCAGCTG
Slc25a11	AAGAACCGGATGCAGTTGAG
Slc25a11	GCCTGAAGGGCATTTACACT
Slc25a12	ACCCGGATGCAAAACCAGCG
Slc25a12	ATAGCACTTTAGCAGGCACG
Slc25a12	CTCTTGATAGGAGATCAACC
Slc25a12	TCACTGGAAGTCTTACCCTG
Slc25a13	GGGGCGACTCCCAGTAACTG
Slc25a13	CAGATTTATATGAGCCGAGG
Slc25a13	ACAAGGCATCCGGAGCACAC
Slc25a13	TACAAGATCGATAGGATACA
Slc25a14	GATGCCTGTCTTAGTAACGC
Slc25a14	TACCAGCAAGAAGGTACCAG
Slc25a14	TGAAACGAACATCGATACTC
Slc25a14	TTATTTGTAGAACGTTTGGA
Slc25a15	ACCTTTCCAGACCTCTACCG
Slc25a15	GCCCATGGTAGAAGCCCAAG
Slc25a15	GCACAGCATGCGTACTGACT
Slc25a15	GGACAGCACTTACTTCTGAC
Slc25a16	CTGCACTTACCCTCTCGATG
Slc25a16	CCAGTAGAAGTCTCGGCGTG
Slc25a16	ATGAACTGGATTGCACCGTA
Slc25a16	ATATAGTAGGCATCAGACCT
Slc25a17	GAAGTCTAGCAGTATCCAAG
Slc25a17	GCCTGGCACCATACCGAGGA
Slc25a17	ACTACAAAGGCATTATCGGT
Slc25a17	TTAATAGCCTCAAAGCAGTG
Slc25a18	TGGGACAGGTAATCACCACC
Slc25a18	TGGGATGTGCCTCACCTAAG
Slc25a18	AAGGTCAATGGGAAACACGC
Slc25a18	CCTGATTCCACAGGACGCAG
Slc25a19	ACGGACCATGTATAAGACCG

Target gene	sgRNA sequence
Slc25a19	TCAGCGCACTTTGTGTGCGG
Slc25a19	GACCCCAATGCCAAATACCA
Slc25a19	AGAACTGCAGGCCCGCGTAG
Slc25a2	GGCATCCGTGGCCTTTACAG
Slc25a2	GACACTTCACAAGCTCAGTG
Slc25a2	GGTCCCTTAGGCTTCTATCG
Slc25a2	CCACTTTCCTGACAAACTGT
Slc25a20	ATAGGGGTGACTCCAATGAT
Slc25a20	TCCAAGGTCCCAGAGTACAT
Slc25a20	TCAGGGGAGAACAAGTACAG
Slc25a20	TCCCAGCTGTAAACAGCTGT
Slc25a21	CCTGATGCATCCTCTCGATG
Slc25a21	CAATCGGAACTTGTTCAAAG
Slc25a21	CCAGATGATCTTCCGAACAG
Slc25a21	GATATATGTCACTATCACCA
Slc25a22	GTGTCTTAGCCAGGTCGATG
Slc25a22	ATACATGCCGAAGTAGCCCT
Slc25a22	TGATTCAGGTTGGCAAACAG
Slc25a22	GACACCAGCTCTCTAAGGAT
Slc25a23	GCAACTCGTGCACGTCCACG
Slc25a23	CAACCGGCTTAACATTCTAG
Slc25a23	GTTATACCCTCAGATCAAGC
Slc25a23	TCAGAGACATCTATGTGACC
Slc25a24	ATGAGAAAAAATCAGGACAG
Slc25a24	AGAGACTGGACAATTTCAGA
Slc25a24	AAGAAGTTGCTTACCGAGGA
Slc25a24	ATCTTTGTTGACATCGCCAG
Slc25a25	AACAACATGTGCATCGTAGG
Slc25a25	GAGGATCCACGAAAGGCTTG
Slc25a25	CTTGACACCCAGGTCCCGCA
Slc25a25	ACTGGAAGCACTCGACGGTG
Slc25a26	GGCATTCAAGGACTGTACCG
Slc25a26	AACACCCTTACCGTTAGGAA
Slc25a26	CCAGCCTTGTTAAATCCCTG
Slc25a26	ACTTTCAAGGATTCCCACAA
Slc25a27	GCAGCGCTTGTGAACATGGG
Slc25a27	AGTAGGAACTTGCTCGTCCG
Slc25a27	CCTACGTGTCTGTAAATGGC
Slc25a27	GCGCACCATGCCCCTATAAG
Slc25a28	CAACACGTTCCGATAGCGGG
Slc25a28	TTGAGTGACGTAATCCACCC
Slc25a28	CCCGAACACAGTCTGTCACG

Target gene	sgRNA sequence
Slc25a28	ACGTCACAGCAACAGGCGCG
Slc25a29	TCGTCTTGGCCAGTTCCATG
Slc25a29	TACCGGCATGAGGGCCTGCG
Slc25a29	GATGTAATGACCCGCGCCAT
Slc25a29	GGTCCTGCCCGTACCTACAA
Slc25a3	GCCCCGAAGTGAATGTACAA
Slc25a3	GTCAGCGAAGAATTCAGCAC
Slc25a3	AATACAGTGATGTGCGCCAC
Slc25a3	TGCGGCACTTTACTAAGTCC
Slc25a30	GAGCCTGAAGCGGTTAGCTG
Slc25a30	AGTCGGATTAGCAATAGCTG
Slc25a30	CAATTGATTTAACTAAGACA
Slc25a30	CAGAACAGCGCTGTTCAAGG
Slc25a31	GGGTTCTGGCAAAATCTAGT
Slc25a31	CACAGCTGTCTTCGACACCG
Slc25a31	GACTGATTGGTCTATACCAA
Slc25a31	AGCCCTGAGGCGCGCTACAA
Slc25a32	CGGATCTTCACGAGGTCGAG
Slc25a32	GGTTCTCGTACCGGACGTGG
Slc25a32	GGAGTAACCCCGAATGTGTG
Slc25a32	AGGTGTGCGTGGATTATACA
Slc25a33	AGTCCAGGCGTCACAGACGT
Slc25a33	CTATTTGGATGGTTAAAACG
Slc25a33	TGTCTCCGAGATCCCAGCGT
Slc25a33	CTCCAACCAAATTTGGACCC
Slc25a34	GCCGCGTGCTGACGACGTCC
Slc25a34	CCCTGGACGTCGTCAGCACG
Slc25a34	AGCTTCGGAAACTGGTTGCG
Slc25a34	GTGGGGACCCAAGCGCAGAT
Slc25a35	GCCAGAAACATGGTCTAGTG
Slc25a35	TCTGGGAAGCCCAATCTACA
Slc25a35	AAGACCAGAATGCAATTGCA
Slc25a35	AGAACTGGTACAAGAGCGCA
Slc25a36	TTGTAGATGTGGTGGCACAG
Slc25a36	AGGGCTATCCTGGAAAAAGA
Slc25a36	GAGTCTTTATAAGCCAAATG
Slc25a36	TATCAGACAGACGGACTGCG
Slc25a37	CTGGATTCATTACTGCATCG
Slc25a37	CACTGTCCGGATACAACTGA
Slc25a37	GATGAAGTGAATTGACTGGA
Slc25a37	GCATCTATGGCGCCCTCAAG
Slc25a38	TCCAGGGACACATCTCACAA

Target gene	sgRNA sequence
Slc25a38	CTGAGAAGGGGGCATCACGG
Slc25a38	AGAGGAAAGCCTTAATCACT
Slc25a38	AGTGATCAAGACACGCTATG
Slc25a39	GTACTCACCGCTGGTTGCCG
Slc25a39	CAAGGTGCCAGTGAACCGTG
Slc25a39	AAGTGCCTCCTATACTGCAA
Slc25a39	GGCGGACCTTCACCACATCC
Slc25a4	CAGTTTGACCCTCTCGATCG
Slc25a4	GGAAGATCCCTTGCCCACGT
Slc25a4	TTGTGTCGTGAGAATCCCCA
Slc25a4	GGGGAAGTACCGGATCACGT
Slc25a40	TATATCCATAGTGACTCCCC
Slc25a40	TTTCAACTTACAGAGTAGGA
Slc25a40	ATATACATACCTTTGGGGAA
Slc25a40	ATGTCTTTACCAATGTCCCA
Slc25a41	GACGCTCATAAACCCCATGG
Slc25a41	CTAGGTCGGTGCAAGCATAG
Slc25a41	GAACTTGATAGCATACTCTG
Slc25a41	ACAAACCTGCATGTACACCC
Slc25a42	GCTGGGTGTCATTCCCTATG
Slc25a42	AGGAATCACTCGCACCATGG
Slc25a42	GTACGTGAGGGAAGCCGCAG
Slc25a42	CTTCATCCGAATCTCGAGAG
Slc25a43	GTGCTGGAACCATCATACAG
Slc25a43	TGTAGGGTATGTGACAATCG
Slc25a43	GTTCCTGGCCCTTTATCGAG
Slc25a43	TCCACTGGGAAATACGGCCC
Slc25a44	GTCAAATCACTCGTAGCCGG
Slc25a44	GATGTCCTTAGTCTGGCCAA
Slc25a44	TGGGATGTACGTTAGCAGCG
Slc25a44	TGAGTGTGAAGGTGTTGACC
Slc25a45	ACAAAGTACATTCCTAACGT
Slc25a45	GGCTACCTACTGACTCATGG
Slc25a45	TTTGTAGACGGACTTTGATG
Slc25a45	TGCACAGGCCCCCGGTACCG
Slc25a46	GTGAATTTACACCTTTACCG
Slc25a46	TGAGATGGTAATGCCGAGCA
Slc25a46	GCGGAACCCTCGAGCGTCGG
Slc25a46	AATTGGACGAGTGATAGGCT
Slc25a47	GGGACACGTATCGTCAAGAG
Slc25a47	CAAAGGAGTGACCCTCACGA
Slc25a47	GTTCCTGACGTCACCCACTG

Target gene	sgRNA sequence
Slc25a47	ACTGCACTGTTTAGTCACAG
Slc25a48	AGATCAGACAGACTTCGGCC
Slc25a48	GAACACCACCGAGTTATAGA
Slc25a48	CACATTCAACTGCATCCGCA
Slc25a48	CTGGTATGCTGCCACCGCCC
Slc25a5	CAAGGGCATCATAGACTGCG
Slc25a5	CGCAGCCATCTCCAAGACAG
Slc25a5	TTAAGATCTACAAATCTGAT
Slc25a5	GCACAAGGATGTAGCCCCAG
Slc25a51	GGGATTGCAGAGTATTACCG
Slc25a51	ACCAAACATAAGTGCCAGCG
Slc25a51	TGACAAGTCCTGGTTCGAAG
Slc25a51	TTACTTGTGTGGCTACTGCG
Slc25a53	GTCACAGGCCTACACCCTTG
Slc25a53	GGCCCTCAGTACTTCTACCG
Slc25a53	CTGTCACTGGGCTATTATCG
Slc25a53	AAGGGAGTGTGGCCCAACCG
Slc25a54	AGAGACAGCAATCAAGATCG
Slc25a54	GAATAGCGAGTGCGATCACA
Slc25a54	CTCCGTGTCTTCGCTAAACG
Slc25a54	TGGCCTGAGAGAGAGAAATG
Slc26a1	ACAGGCCAACATATGTGATG
Slc26a1	CCAGCCGGAGGATACCCATG
Slc26a1	TACCAGACCCTAAGATAATG
Slc26a1	GCCCACATTAACATGGCGGG
Slc26a10	CGTGTAGAGTCCGAACACCG
Slc26a10	GCTCCCTTTCGATTCCACTG
Slc26a10	GGACACAAGATACAATGTCC
Slc26a10	AAAAGCAGCCGATCTGGCGT
Slc26a11	CTTGCCGTGAAGTTCAGCCG
Slc26a11	TCCGCTGCCAGCATCACAAT
Slc26a11	GGTACCTGGTCTCTCCGATG
Slc26a11	AGGGTAGGCGACGCTGTCCT
Slc26a2	GAGCCGACACCATGACTCCG
Slc26a2	ATGGCCGGAGAGCTTTCCGT
Slc26a2	ACTGTGCCTTATGATTGGTG
Slc26a2	TCCAAAATGAGAAGCCAATG
Slc26a3	CTATCCGAGTCCCTAATCAG
Slc26a3	TCCACGCTGGGTGTAATAGG
Slc26a3	CTGGCAACCAAGATGCTATG
Slc26a3	TAATCCGAGTCCAAGGACAA
Slc26a4	TTGTGAATCCGCCAACCAAG

Target gene	sgRNA sequence
Slc26a4	GCTCCCAAAATACCGAGTCA
Slc26a4	TCTGGTTCCAGTGTCTAACG
Slc26a4	GAAGACGTTGCTTATCCCAA
Slc26a5	GGTGCGAGGCTTTACCACTG
Slc26a5	CCTACATGAGTCCTACAGTG
Slc26a5	GATGAGTACAGGCCAAACAC
Slc26a5	TGACGATCACAATGGCGGAA
Slc26a6	ACCGGAACCAAGTTCGCCAC
Slc26a6	AGCTGATGATGCACGCGTGC
Slc26a6	CCCGGTATCCTGTGCGTGAA
Slc26a6	GTCCTAGATGCTCCCGTGCT
Slc26a7	TAGACCATACTTATTACCTG
Slc26a7	TTGTGATGTCACGACATGGG
Slc26a7	GCAGTTCAACAGGTGGCACA
Slc26a7	TCAGCTCTTTAACGAGAACA
Slc26a8	TGGGATCATCTTAAGCAATG
Slc26a8	AAATGTTAATGACTACCGGG
Slc26a8	GCGTAAGTGACGTTGAGGGG
Slc26a8	ACTTACAAGCAAGATAACCA
Slc26a9	TGTCACCAATGAGACCTACG
Slc26a9	CTGACCATTCCCTCCTATAC
Slc26a9	CTTTGCCGTTATCAGCATCC
Slc26a9	ACTCAGTGGAGGGTGTATCC
Slc27a1	GGATGGGGTACACATGCGTG
Slc27a1	GGCTAGAGCTGCGACGACAC
Slc27a1	GAGGCAGCCGGTTCGCGACG
Slc27a1	ATACCTGCAGAGTGGTAGAG
Slc27a2	TGAGCTGATCAAGTATGACG
Slc27a2	ATGCGTAGAACTCATACACG
Slc27a2	GCTTACGTAAAAGACGGACA
Slc27a2	CTTCACGGATGCATCGTGGT
Slc27a3	CTACGTTCAATTACACAGGA
Slc27a3	GCAGCGCTTTAGCTACGCGG
Slc27a3	GTGCCCACCGCTTTACGCCG
Slc27a3	TGTGGTACAGTGGGAGTGCG
Slc27a4	CAAACGGATAGGGTACACAA
Slc27a4	TCTACACATCGGGCACCACG
Slc27a4	TGACTTCAGGAAACATCGTG
Slc27a4	ACAGACCCACAAACTCATTG
Slc27a5	GTGGGCTTAATGAACTATGT
Slc27a5	TACCTCTGTACCATACGATA
Slc27a5	GTAACAGTGATCTTGTATGT

Target gene	sgRNA sequence
Slc27a5	CCTTTGTGGATGCTTTAGAG
Slc27a6	GAACTGTACGGAGCTACCGA
Slc27a6	AAGCCTTCATCATTTATGAG
Slc27a6	CAACTGCCAAACGTACCCGA
Slc27a6	GGTGCGCTACGGAATTCAGA
Slc28a1	ACACCAGCTGTTCCGGCCGC
Slc28a1	ACGAACAGCGCCAGCGCCCT
Slc28a1	TGGCCTACAATCTGCTAAAG
Slc28a1	CGCCCAGCGGCCGGAACAGC
Slc28a2	ACCGCTTTGCCCAAAGATTC
Slc28a2	TCCTCCTCCAGGGTGTTCGT
Slc28a2	AAAACACCCACCTGAATCTT
Slc28a2	CTGTTGTTGGCCTCATCCTC
Slc28a3	AGTTCCGACTTGGTGACGTG
Slc28a3	TGCAGGTGCGGACATGACCG
Slc28a3	AAGGACACGCCAAACAGGTA
Slc28a3	TCTGTGGAAGTTTATCGCAC
Slc29a1	GCTGATGCAGAAACGAGTTG
Slc29a1	GCATGATTGATCAGTGTCCG
Slc29a1	TACACAGCCCCCATCATGAG
Slc29a1	GGCCAAAATGACAACTGCAC
Slc29a2	CAGGCTGAGGTAACATACGA
Slc29a2	GCAGCATCCCCGAGTCGGTG
Slc29a2	TCTGGGCATCCACGCCACCT
Slc29a2	GATGAACCAGACGGACGCCA
Slc29a3	AATGATGGCCATGCACGCGA
Slc29a3	GGGAAACTGCGCAGAACCCG
Slc29a3	CAAGGAAGACTGCTGCCATG
Slc29a3	ACCAGAAAACACTCGAACTG
Slc29a4	GCTGTTGCACCGATACGTCG
Slc29a4	ACTGCCCAAGAGGTACACGC
Slc29a4	GTGGTGAAGATAGTCGACAT
Slc29a4	TGTGCTCCTAAACAACGTTG
Slc2a1	CCTGCTCATCAATCGTAACG
Slc2a1	TCAGCATGGAGTTCCGCCTG
Slc2a1	GTGTCACCTACAGCTCTACG
Slc2a1	CAAACATGGAACCACCGCTA
Slc2a10	CAGCCCCGTGGCGACCAAGG
Slc2a10	AGAGGCGTAATACAGCACAT
Slc2a10	TGTGCTGGTGTCCCTCTACG
Slc2a10	AGCCAACAGATAAACGGCCC
Slc2a12	GTCCTACACGCTCCTTATAA

Target gene	sgRNA sequence
Slc2a12	ATTGGAGCCCGTTAGGTGTC
Slc2a12	ATACCAGTGTCAGACCTATC
Slc2a12	GGCGCGGCCTCTAATTCCAC
Slc2a13	CATGGCCCCCGACACCACGC
Slc2a13	CCTCGGTGGCTGATTCAGAA
Slc2a13	CACATCCCACAACTAACGCT
Slc2a13	AAGGATAATCAGTGCTACTG
Slc2a2	AGAGGGCTCCAGTCAATGAG
Slc2a2	TTACCGACAGCCCATCCTCG
Slc2a2	GGACTGGTTCCAATGTACAT
Slc2a2	TGTGATCAATGCACCTCAAG
Slc2a3	TTAGAAGACCTACCAAGTGA
Slc2a3	GACCACGCCTGCTCCAATCG
Slc2a3	CTGGAATGATGGTTAAGCCA
Slc2a3	TGTGCCTATGTACATTGGAG
Slc2a4	GCAGCCTCTGATCATCGCAG
Slc2a4	AACAGAGCTACAATGCAACG
Slc2a4	AACCAGAATGCCAATGACGA
Slc2a4	CCAGGTCTAAAGCGCCTGAC
Slc2a5	CTGGCCCCGAAAAACCTACG
Slc2a5	TGCGCTGAGGTAGATCTGAT
Slc2a5	CCTGCCCAGTTTATTCACCA
Slc2a5	CGGGGACTCCAGTTAGACCC
Slc2a6	GAGTAGCCGAGTGTCGTGGG
Slc2a6	GAGAGACAGGGATCCAAACA
Slc2a6	CATCTTCGACAACACATCCG
Slc2a6	ACTACACCTGGACAAAATCC
Slc2a7	CGGCGATGTTGTAGCCATAC
Slc2a7	TGCCCCACTTATTGACCATC
Slc2a7	GACACGCACTTTGAGCGACA
Slc2a7	TTCCCACCAGCACTCGAGAC
Slc2a8	CCTGCGCCTCGGAGACAATG
Slc2a8	ACAGCAAAGCCAGTCACGAA
Slc2a8	GATTATGCCCACAGTGACCG
Slc2a8	TTGAGTGAGGAGAAAACGTG
Slc2a9	CGGAGAGGTTGTACCCGTAG
Slc2a9	GCATGCCATCAGCAACGCTG
Slc2a9	CCAACTATGTGGACTCAATG
Slc2a9	TCTCAACGAGATCTCACCCA
Slc30a1	TGGGCCAGCGTCACGCATCG
Slc30a1	CCAGGAGGAGACCAACACGC
Slc30a1	GGCATTCACGACCACGATCA

Target gene	sgRNA sequence
Slc30a1	GGAGTCTGACAATCTGGAAG
Slc30a10	CCATGACAACAGTCAAACTG
Slc30a10	AGCCGTGATGACCACAACCA
Slc30a10	GCACAGCAGTGACTCTCCGG
Slc30a10	TGCTGCAGATGGTCCCCAAG
Slc30a2	CTGGTCGGGAAGACACCCAG
Slc30a2	TGGAGATTATGAGATCAAAG
Slc30a2	AGGCCACATAGAGTTTGCGT
Slc30a2	GATGGAAAGCACGGACAACA
Slc30a3	GATAGTCACTATGAAGCAGG
Slc30a3	GTCTCCCAGCACATGCACAA
Slc30a3	GCCCACTTGCTAGCAGACAT
Slc30a3	TGCAGAGTATGCACCTCTAG
Slc30a4	CGGACGAGGTGAGCGACGAG
Slc30a4	TCCACTAGATACCATGCTTG
Slc30a4	ACCTTTGGATTTCATCGCCT
Slc30a4	ACTTTGTACCAAGTCTCCCA
Slc30a5	TGTTCTTTCTGTGACGACTG
Slc30a5	GGCGTGCTAACCAACAGTCT
Slc30a5	ACCACTCTATCACTTCATGG
Slc30a5	ACAGAGCACGTCCTGTCTGG
Slc30a6	AACTGACCGATAACATGAGG
Slc30a6	TCAGAACAAACGGATTCATG
Slc30a6	GGGCAACATACCGATGCTGT
Slc30a6	CTTACCCAAATGAATAGACA
Slc30a7	AGGAGTCGGAGATCAAGCCT
Slc30a7	CATTAAAGAGGGAATGACTG
Slc30a7	AAACAAGCAGCAGTCTCTCG
Slc30a7	CATGACCATGACCACGCTCA
Slc30a8	GCTCTGAAATACATCCCCCA
Slc30a8	TGGTATGACTTACACAATGT
Slc30a8	TCTGGCTATCCTCACTGATG
Slc30a8	CTTGCTCGACCTGTTCCCTG
Slc30a9	AAGGACTCGGTGTCATCGTG
Slc30a9	ACTGAGACCGCTCTGGAACG
Slc30a9	ATTATCTGATACTTGTAACC
Slc30a9	CTACGAATGTCCAGAAAGGA
Slc31a1	TGTGGTTCATACCCATATGG
Slc31a1	TTGGTAATCAATACACCTGG
Slc31a1	GGACTCAAGATAGCCCGAGA
Slc31a1	TCAGCCTCACACTCCCACGG
Slc31a2	CTGTATGAGGGCATCAAGGT

Target gene	sgRNA sequence
Slc31a2	CAGACAATAGGACCCGCCTC
Slc31a2	GGACCAGACCAGGATTCTAC
Slc31a2	CAAGATGAACTGCTGGCTGT
Slc32a1	GACGTGTATCTTGTACGTCG
Slc32a1	ACAAACCCAAGATCACGGCG
Slc32a1	GGAGACATTCATTATCAGCG
Slc32a1	CAGCAGACTGAACTTGGACA
Slc33a1	GTGACTTACCTAAAGCCCCG
Slc33a1	ATGTTATCCCGGGAAAACGT
Slc33a1	GAAAGGGTAACGATTCCCCT
Slc33a1	AAATATTGATGGCAGAACAC
Slc34a1	AGTTGAGCATCTTCACAAGG
Slc34a1	TGACCCACTACCTACCAAGC
Slc34a1	GTGTCACCCAGACACAACAG
Slc34a1	TGCCATCCTATCCAACCCAG
Slc34a2	TCATAGAGGAGCATCCCGAG
Slc34a2	CTCCATCACCAACACGATCG
Slc34a2	AGAGGTGCAGTTATCAGTCG
Slc34a2	CTCACCGATGAGTGGAGTCA
Slc34a3	AGGTTAGGCCTGCGCCAACG
Slc34a3	AGTTGAGCAGTTTAACGATG
Slc34a3	GATAGCAGTGTGATAACCAG
Slc34a3	CAATGACCAAGCCCGCCACA
Slc35a1	GAACACTCAGCAAATTACAG
Slc35a1	ATAGCACCAAAGCCTAACAA
Slc35a1	TGCACAGCATACACTAGTGA
Slc35a1	TCTTAAAGCTACGGTGTAAG
Slc35a2	TCACCCGCTGTAGTGGACCC
Slc35a2	CTGCTCTTCGCACAAAAGAG
Slc35a2	CTGCAAGGTATAGATGAGAG
Slc35a2	GGCCACTGGATCAGAACCCG
Slc35a3	GCTGTAGAAGACAGATAACG
Slc35a3	TGAAGCTCGCTATCCCGTCA
Slc35a3	TCCTGCCATCAGAATTACTA
Slc35a3	CAAACTGTGAGCCTGTTGAA
Slc35a4	TGTTTGCCAGCCTACCAGGA
Slc35a4	AGTGGACAGGAAGAGCAACA
Slc35a4	GTTCTTAGCACTGTGCCATG
Slc35a4	TCCCAGTGGAGTGATATGCA
Slc35a5	ATTGAACTATAATCAGAACG
Slc35a5	AAGAGACAATTGTACATCGA
Slc35a5	GATTCTGTTCTTGTCTATCG

Target gene	sgRNA sequence
Slc35a5	CTCTGAGCACACGTTCACAG
Slc35b1	CCTGTGTGTATTGCTAATTG
Slc35b1	GTTTGTCAACTATCCAACTC
Slc35b1	TGTTTCGTCTTAGCACAAGA
Slc35b1	GGAGACCATGGCACCCACAT
Slc35b2	AAGCAATATAGCCTGCCAGT
Slc35b2	CTGCAGGAAAGAGTGATGAC
Slc35b2	GGCTCCGCGGACAGAGACAG
Slc35b2	TACATGGGTGCACCATGACG
Slc35b3	GTACACAAACCCGATTGAGT
Slc35b3	TCCTCAACTGACTTGATGTG
Slc35b3	AAGGTAAGGTACCAGCCGTA
Slc35b3	TCTTGTCTCACATAGGAAAG
Slc35b4	GATCTGAATATCATATGCAG
Slc35b4	CACGCTGACAGTGAAGAACA
Slc35b4	GCAGTTCTTATTTATTGCTG
Slc35b4	GAGGCCAAGAAGATGAACCC
Slc35c1	AGGGCACCCCTACGTACTTG
Slc35c1	AGGTTAGGCGCCAGATACTG
Slc35c1	CTCACCAATGATGACGCCGC
Slc35c1	GCAGTGAGGTCACCAGGCAT
Slc35c2	CGAAGGCCAGAATCCCACCG
Slc35c2	GTATTTGTGTAAGGGTCCAG
Slc35c2	CCTTCGAATATGGCAAAGAG
Slc35c2	AGGTGGAACATGGTGTCAAT
Slc35d1	GGCGCCGGCCGAAACGCTAA
Slc35d1	TGTGTGTGGAGGATTTCGCG
Slc35d1	ACTGTATTTGCAATGATCAT
Slc35d1	TGGTTCCCAAAATATAGTAG
Slc35d2	AATTCCAAGTACAATTGGTG
Slc35d2	TTCCTGAGCACGGTGAACAT
Slc35d2	CTTGAATGATATCTTCACCG
Slc35d2	TCCTGGAGGCTATCATACTT
Slc35d3	CGCCCGTTACGTACCCAATG
Slc35d3	CTCACTCTCTGGTCGCTGCG
Slc35d3	GACGGCGATCACATACTGTG
Slc35d3	CGAATATGGAAACCATGGCC
Slc35e1	CAGAGCTGTCCTTCGACGTG
Slc35e1	TGTTCTTCATGATCCCCACG
Slc35e1	GACCAGCCCCCACACGTCGA
Slc35e1	CTGGGTTGCGCAGCATAATG
Slc35e2	TGCGTTATCCACCAACATTA

Target gene	sgRNA sequence
Slc35e2	ATGCTGTCAACAACGTTAAT
Slc35e2	ACTAGCGTTGTGCACTGCCA
Slc35e2	ATGATTCTGGGGGAGTACAC
Slc35e3	CGTCAGAATACAGCTCACGC
Slc35e3	AAATGGATCTATGTACACCA
Slc35e3	AGTCACGTCCCTTTATCAAG
Slc35e3	CTGGTAGTAAAGTAGCTGCA
Slc35e4	TGAGCAGCAGCACTCGACGG
Slc35e4	CTTGAAGCCTCGCAGACAGG
Slc35e4	GCTGCCACAACCACTCTCGC
Slc35e4	CAAAGAAGTGGCATACAGCA
Slc35f1	TTCGTCGTAAAATTGCCAGG
Slc35f1	GACATTTGAGATCCCGTACA
Slc35f1	ACCGGCCCCGCCGAACCATG
Slc35f1	AGGAGAGCAAAATCACCACC
Slc35f2	GGCCGTGCCGCAAATACACA
Slc35f2	TTGGTGCAGACATATTAGCT
Slc35f2	TCTTGCCCGGAGAATAAACC
Slc35f2	CCAGCATCAACGTGTAAACC
Slc35f3	GTCATGATGACCTATGCCGA
Slc35f3	GGTCCTGACCCTCACCAAAG
Slc35f3	GTTGGTGGCAAACCACGTCA
Slc35f3	ACTGGACATGTTCTCAGGAG
Slc35f4	GATGGCCGGAATAATAGACT
Slc35f4	TCAGTTACTCGATGCAAACC
Slc35f4	CATTGTCATGATGGCGTATG
Slc35f4	ATGGTTCTGAAGACCATCTG
Slc35f5	GCTGTATTTCCGAGTAACAG
Slc35f5	CAGGAGAATCACTATCCCCA
Slc35f5	TCAGAGAAGCCCTTGCAACA
Slc35f5	CTCCCAAGAAGTCCCGTGTA
Slc35f6	GGGACCAGCATCATGTACGT
Slc35f6	GGATGTAGAACATAGGCACA
Slc35f6	AATGCTGGTACCTGGACGAA
Slc35f6	GATCACTATTGCGGGACTGG
Slc35g1	ACAGCTAAACGCAATAACTG
Slc35g1	ACGCACTGATCTCTACAGCA
Slc35g1	TCATTTAAATTTGCAGAACG
Slc35g1	GTCCACGTGCTCCTCGCCGG
Slc35g2	GAAAATGGCGTATGTTGACA
Slc35g2	CTTGGGTCTTCTGACGACGA
Slc35g2	AGTCGTAATCTGTATCCGCT

Target gene	sgRNA sequence
Slc35g2	TACTATCATAGAAAGCGCCG
Slc35g3	CTTGGGCTAATCATCATCGT
Slc35g3	GAAAGCCAGTACATAGCCCA
Slc35g3	ACCACGGAACTTAAGTAACA
Slc35g3	TGTAGGCGCAACCAATGCTG
Slc36a1	AGAAGATGGACAACACACGC
Slc36a1	GTCCGGAACCACTCCCACTG
Slc36a1	CTGTACTCTACATCAGCCTG
Slc36a1	ATCGCTGTGCCAAAGAACAG
Slc36a2	TGACTAGGATGTGCATACAG
Slc36a2	GGTAGTTCTGACGCCCACCA
Slc36a2	AGCAAAGTACCTCCCCCAGT
Slc36a2	AGCCCCGATAGCAATGTACA
Slc36a3	TCCCCAGATACAGCACAGCG
Slc36a3	AGAGACCACAATGTACAGCC
Slc36a3	TGAGCGCCCGATGGCCAAG
Slc36a3	CACCTGTTGAAAAGCAACAT
Slc36a4	TTTCGATGGGTCGTCCGACG
Slc36a4	TCAGGCATTGAACATCGGCA
Slc36a4	CCGCGTTCTTTATAGCCAAG
Slc36a4	TTGCCATGGAGGCTAGTCCG
Slc37a1	CTGAACAATGAGACCGACTG
Slc37a1	GTTCCCCTATTATTCCACTG
Slc37a1	CCACAGCCTGGGATTCTACG
Slc37a1	ATCATGCTGTGTTGTAGGCG
Slc37a2	TTAGCACCATTCCAGCCGAG
Slc37a2	ACGATCTCAATGATACCACC
Slc37a2	CCCACATTGAAGATGTACAA
Slc37a2	GGCTTGTGCAGACTACAGGC
Slc37a3	ACCATACTGGAGAACCGATG
Slc37a3	TCAGCGGCATCATAGGCGAT
Slc37a3	GCCTAACTATTCGATCCAGG
Slc37a3	CCTAGGTCTCCCGAGTATCG
Slc37a4	CTACGTTGACCAGACCAACC
Slc37a4	TCTTTACTCCGAAGACCACG
Slc37a4	CACAAACTTGCTGATGGCGT
Slc37a4	CAGAGCGATCTCATCCACCA
Slc38a1	ATACTTTGGTGTGCACGCGT
Slc38a1	TGCATGGTGTATGAGAAGCT
Slc38a1	TCACCATCACCACCAACACT
Slc38a1	AGATTGGCAGGACGGACGGG
Slc38a10	TTGACGCAAGAAGCTCGCAG

Target gene	sgRNA sequence
Slc38a10	TGCACGGCAGAATCATCATG
Slc38a10	GCTTCACAGGAGCAACGATG
Slc38a10	TCACCTGTAGCAGCACGGCA
Slc38a11	TTTCCCTCCGTGTTCATGTC
Slc38a11	TGAAAGGGTACATAAACTGT
Slc38a11	AATGTAGTCAATTCTGTTAT
Slc38a11	CCTTATTCAATGAAGCAAGC
Slc38a2	CCACCAAAGCAGCTTCCACG
Slc38a2	CTCAAGACTGCCAACGAAGG
Slc38a2	GCAGTGACAATGGAAGAATG
Slc38a2	GAGTTGAAGATGAAATAGCG
Slc38a3	AGCTGTCGCATCAGTGCTAG
Slc38a3	CATGACATACATGACAGCAA
Slc38a3	GATGTATAGGTAGCTGGACA
Slc38a3	ACCTGCTCCTCAAGTCTTCG
Slc38a4	CCACGGACACAAATAAGACG
Slc38a4	GAAGAAGCTAGCCGATTACG
Slc38a4	GATCTCGCTGCCTAATGACT
Slc38a4	GATGAAGAGGTAGCTTGACA
Slc38a5	AGCTACAGGCAGGAACGCGA
Slc38a5	ACCTGCCGGGAAAGTAGTCG
Slc38a5	GGAAGGTGCCAATAACAAGG
Slc38a5	ACCTCAGCAACGCTATCATG
Slc38a6	CGTGACGTCTTACGAAGATC
Slc38a6	CCTTGGTTTGGCGTATGTGA
Slc38a6	CAGATCTTCGTAAGACGTCA
Slc38a6	CCATCACATACGCCAAACCA
Slc38a7	GCTGGTCCCCAATAATGATG
Slc38a7	AGTTGAGCAGACCCGCACCG
Slc38a7	AGATAAAGAGATGCGCCCGG
Slc38a7	ATGTGGTACCTAAGAGTGAG
Slc38a8	TCACGGTGCAATACTACCTG
Slc38a8	ATTTCCCGAAGTGCTGACAG
Slc38a8	GCTGGTCCCCGATCACTCTG
Slc38a8	TCTTTGGTCTTCCTGATCAG
Slc38a9	TACTCACATAGTAACTAAGC
Slc38a9	AAAAAGGCTGGATTTACCAC
Slc38a9	AAACTCAAGAGTTACACTGA
Slc38a9	ACTTTACTGCTGCTATAGAG
Slc39a1	AGCACTGGCACGATGGACCA
Slc39a1	CCAAGATGAACTCTTGCAAG
Slc39a1	GGTGATGGAGCAGATCACGC

Target gene	sgRNA sequence
Slc39a1	AGACCAGGACACAAGCACGC
Slc39a10	CGTGCGTATGCTGATGACTG
Slc39a10	TGAACAATATGAGCATAACC
Slc39a10	AGTCGTTGAGATTAATCACG
Slc39a10	CGATCTGATACAGCAATGCA
Slc39a11	AGAATGGCGAGGTATACCAG
Slc39a11	CCACTGTGAACTCACCCCTG
Slc39a11	GAGATGGCGACATCCTCGGG
Slc39a11	CAGACTTCTTCATCAATGCA
Slc39a12	CAATCTTACCAGATAGGTGG
Slc39a12	ACCAATACCCTCCACCTATC
Slc39a12	GATGCACTGTTACTCACAGC
Slc39a12	TGAACATGCTCACGACCAGA
Slc39a13	ATAAAGAAAGCGAGTCCTGG
Slc39a13	TACACCTGTAACATCACCCC
Slc39a13	CTCACCTTCTGACTGTAACA
Slc39a13	CTGGGGCTATGGGTCATCGC
Slc39a14	GAGCGAGCGATCTCAGATCG
Slc39a14	GTAGAGGGTTCCAATCGCCA
Slc39a14	TAAAATGGTTATGCCCGTGA
Slc39a14	GTGACCGAGAAGCTACAGAA
Slc39a2	TCCATAGGGATACTCCACCT
Slc39a2	TTTATTAGGTCATCACCACA
Slc39a2	TGGATTCCACAAGCATCCAG
Slc39a2	CTGTATGGTGGCCGCCACTG
Slc39a3	CAGCGCACACCCATGGCGCG
Slc39a3	GAGTACGAGAGCCCGTTCGT
Slc39a3	GCTGCCTGTGAAGGTCATCG
Slc39a3	CATCAGCACCGACTACCCGC
Slc39a4	GGTCCTGAATACGGATAGTG
Slc39a4	CAGTTGGGGAAGATCTACAC
Slc39a4	CATGCAGCGTGATATTGGGA
Slc39a4	TGGAGAGGGTCACACCCATG
Slc39a5	CAGCAGAGCGAACTGACGAG
Slc39a5	AGGACCTAGTGAGCAATCAG
Slc39a5	GTGGAGACAATTTCACACAC
Slc39a5	TCAGATGGTCAGCCAACGAA
Slc39a6	CGTGGTCCGAGTGATGCTCG
Slc39a6	AGGAATCATTCTCTCCGTAG
Slc39a6	CAGCCACGGAACTTACGTGT
Slc39a6	GACAGCGTTGTATACCGCCG
Slc39a7	TCACGTGAGGAATTACACCA

Target gene	sgRNA sequence
Slc39a7	TCACAAATTTCTCCACCACG
Slc39a7	TCACATGAAGATTTCCACCA
Slc39a7	GGTGGAGGAACGCATCACCC
Slc39a8	TCAGCTGCTGTAAGATCGCG
Slc39a8	AGGGGGTTAAAATCAATCCC
Slc39a8	CGTTAGGCTCAGTGACAGCG
Slc39a8	CGGCGCCAACCGGAGCCTGT
Slc39a9	TGCACTGGCGGTCATCGTCC
Slc39a9	TTGCCACGAACACAATTAAC
Slc39a9	TGTCCAGTTAATTGTGTTCG
Slc39a9	TTTCTAGGAGCGGCTGAAGC
Slc3a1	CCATATACCAGATCTACCCG
Slc3a1	ATCCTTGGTTCCAATCGAGT
Slc3a1	AGAGGAGCCTCACCTAAAGG
Slc3a1	TGGCAAGCCATAGTACATCA
Slc3a2	GTTCACCGGCTTATCCAAGG
Slc3a2	CGCCCGAACGATGATAACCA
Slc3a2	TATCACCAAGAACTTAAGTG
Slc3a2	GTACTGAATCCCTAGTCACT
Slc40a1	CAGGGTACGCCTACACTCAG
Slc40a1	CCTTTGGATTGTGATCGCAG
Slc40a1	TCATCAGGATGATTCCGCAG
Slc40a1	CCCATCCATCTCGGAAAGTG
Slc41a1	TGAGTCCCGAGCTAACGCCA
Slc41a1	TCCCCAGGTACAAGCCACGG
Slc41a1	CTGGCGATACATCTATCCCC
Slc41a1	TCATTGGGTCTCGAAAGATT
Slc41a2	CCCGCGCTTCTTGGTCTTAA
Slc41a2	TAACTCTCGCCATATTAGCT
Slc41a2	TCCTTTAAGACCAAGAAGCG
Slc41a2	CTTCATCGCATCTCTACTGC
Slc41a3	GGAGTTCGATTGGTCCAAGG
Slc41a3	TTTCCCTTCAGACCGACGAG
Slc41a3	GGTGGATGCCAAATCACTGG
Slc41a3	TCTGCATAGTGATTGGTGCT
Slc43a1	GGATATCCCTGGTACCTCAG
Slc43a1	CTGACCCACAATGGTTACAT
Slc43a1	CTTAACGTTTACCTCACTCA
Slc43a1	CGGTCCATGAGAATTCCCAG
Slc43a2	GTCACTAACAGCACGGTCGG
Slc43a2	GCTTTGACCACAAGATCACA
Slc43a2	CACACTGTGCATAAACGATG

Target gene	sgRNA sequence
Slc43a2	GGAGGTATAGAGGGCAACTG
Slc43a3	TGACCGCTTCAAGACTACTG
Slc43a3	GATTCATCTTGCACGTGGTG
Slc43a3	TGCTCCAGAGCAATGTAACA
Slc43a3	TACCCATAGCTGTAGTTGGG
Slc44a1	CTGGAAGCAATACCGAACAG
Slc44a1	GTACATGTGGTGGTACCACG
Slc44a1	GTGGCACGGGTGTATTATGG
Slc44a1	CACCATCGCCTTGTTCCACG
Slc44a2	ATCAACAACCTTGTACACGG
Slc44a2	GAACATTACAGATCTAGTGG
Slc44a2	GGTGAAACGCATTACCTGAG
Slc44a2	TCAAGTGCAGGTACACTCGG
Slc44a3	AGGATGGCACACGTCCACAG
Slc44a3	GTTCATCATGGGTTATTCGG
Slc44a3	GAACCGGAAGGCGAACAACA
Slc44a3	CCACCACATATACCGAATGC
Slc44a4	TGGGCACGAGGAATTCAACG
Slc44a4	GATGTCGAAGTATAGAACGT
Slc44a4	TCTCCATCCCCAGATAGTGG
Slc44a4	AGTTGGTAGTGAAGCCCAGT
Slc44a5	TTGAAGACTATGCTACCTCG
Slc44a5	ACTGGGTAGATTAACGCACT
Slc44a5	TCAAAGTTATGGTCCCAGCG
Slc44a5	TGGCCATACTCACTCATTGG
Slc45a1	GAGTACCGGAGTCACGTACG
Slc45a1	AGGAGTACTCACCCGCCATG
Slc45a1	GGAGTGACCGATGTACCTCA
Slc45a1	CCACCCCGCACACTGTCAGG
Slc45a2	GCATGTTTACTAATGCCCGA
Slc45a2	CTGGGCCATAAGCATCACCA
Slc45a2	GGCACCCAAAATGTAGCCAA
Slc45a2	GGAGCAGGAATCCCAAGATG
Slc45a3	TGGTACAGAAGTTCGGCACA
Slc45a3	GAGGCTTAGCAGGACACCCA
Slc45a3	CAGCCACAAAGAGTCGGCGT
Slc45a3	AGCCACTCTGTTTGTGACGG
Slc45a4	AGGTCGCTCATGCTTCGGGA
Slc45a4	CGTAGCCAATGGCCCCACCA
Slc45a4	GCATGACCCATAGGCGTGTG
Slc45a4	GGAAAAGTGCAACACCAATG
Slc46a1	AGAGCTAACATCTGCCACAG

Target gene	sgRNA sequence
Slc46a1	GGGCAATGGATCGATGATGG
Slc46a1	TGGACCAGAAGAGTCCCACC
Slc46a1	GAACTGTGGGAACCAAAGCG
Slc46a2	GATGGGCACCTATCGAACCC
Slc46a2	CATGACCCCGGACCAATAAG
Slc46a2	AGCCCAGGACTAAATCGATG
Slc46a2	GGAGTAGTCCTGCGTCGTAG
Slc46a3	CAGCGCAGTACGTGTACCGG
Slc46a3	TGCTGGAATGAGGTTTACAT
Slc46a3	TTAGCGAGCAGCGACAACCA
Slc46a3	CAGGTTGACTATAAGAACCA
Slc47a1	AGCCAGAACTTAAAGCACGT
Slc47a1	GAAGATCATGACGTAAGTCT
Slc47a1	GGGCGCAGGAAACATTGACC
Slc47a1	GCGATGCCCGTCATAATCTG
Slc47a2	CGTCCAACTCGACTTTGCCC
Slc47a2	TACGGAAACAGCGAGTGTCA
Slc47a2	AGGCAAGAACTTGAAGCGCG
Slc47a2	GGTGCTCACCTGGCGACATC
Slc48a1	CGGTGGTCTACCGACAACCG
Slc48a1	TGTACATGCAGGATTACTGG
Slc48a1	GCTGGGTGATGGCCAATGCC
Slc48a1	TACCGAGCTGAAGCCGGAGT
Slc4a1	CTCCATGGCGCATAACCGAG
Slc4a1	AATAACCTGGAGTATATCGT
Slc4a1	TCTACAACAGACTTGAACGG
Slc4a1	CTTACCCACTAGCACCAGTG
Slc4a10	AGAGAACATCTGGCACGTAG
Slc4a10	CACGATGCCTGTGACGACGA
Slc4a10	TGAGATTTGCTGGCGTGAAG
Slc4a10	TTCCTGATACCAAGTCATTG
Slc4a11	GGTCCGTGCACACCGGGACC
Slc4a11	CAAAGCGGTTTAGCATAGTT
Slc4a11	GCTCTTACACACCTCTCGCA
Slc4a11	GAGTCACTGCCACTGTCCGA
Slc4a2	GGAAGTCACTTAGGTAGTGG
Slc4a2	GGGTACGGCGACACTTGGTG
Slc4a2	TAGCGGATGATGGATATGGT
Slc4a2	GAGCCCGCTGAGATGTTTCG
Slc4a3	CCGAGACCTACTACGTTCGG
Slc4a3	TGGAGCTTGACGGATTTCGG
Slc4a3	CCACCCACACTCGACCGGTG

Target gene	sgRNA sequence
Slc4a3	CTCACCCACAAGCACGACAG
Slc4a4	AGCCTGCTGTAGGCGAACAA
Slc4a4	GCCTCCAAAAGTGATGGCGT
Slc4a4	ACTTTGAAGTCAGAGTTGAT
Slc4a4	AGAGAATGTTCAGATGAATG
Slc4a5	AGCTATGCACGAAATCGGGG
Slc4a5	TGGGGCTGAGGCATTGACCG
Slc4a5	TTACCTTGGTGGGAAAATAG
Slc4a5	CACCTCGCCCACGAGCACGT
Slc4a7	TCAGGAACATAAGGTCCATG
Slc4a7	TCTGCAAAGGATCGAACCAG
Slc4a7	ACAGTATAGGAAAAGAATCG
Slc4a7	GCAGATCCATTAGGAAACAC
Slc4a8	TCATGAAAAAAATTCCCACG
Slc4a8	AACGACTCAATCGCACTCTG
Slc4a8	ACAGCGTGAGGGTTAAAGTG
Slc4a8	CCTTCCAATACTGTAAGGTG
Slc4a9	TAGGGGCCTTCGTAAGACTG
Slc4a9	ACAGACTTCGAAGCTTCTGG
Slc4a9	GTATTGACAGAAGCAACCAT
Slc4a9	GAGGTGACAGCTCTACCCCC
Slc50a1	TTATCATCGTCAATAGCGTG
Slc50a1	ACTCACCAAATCAGCCAGTG
Slc50a1	ACACTCTCACTTGACATCCG
Slc50a1	CTGAGTTACGGAGTCTTGAA
Slc51a	CACTGAAGGACACCCCGATG
Slc51a	TGGTGAGGGCTATGTCCACT
Slc51a	TCTACAAGTGTGAGGGCGCG
Slc51a	TCAGAGTCCTCTTCTTGATG
Slc51b	ACCAGGATGGAATAATTCCA
Slc51b	TCCTTGGAATTATTCCATCC
Slc51b	TCATCAAGATGCAGGTCTTC
Slc51b	GCATTTCTTCCAGCAGTTCC
Slc52a2	TGTTGTGGGTTCAGATGTCG
Slc52a2	ATGGGAGACACCTCGATCGG
Slc52a2	GGCCTCTCTGTGGAACCACG
Slc52a2	AAGACCGTAAAAAGGGGGGT
Slc52a3	GTGACCTCCTGGATACAGGG
Slc52a3	TGTCTCCGTGACATTGACAC
Slc52a3	GCTGGTGACTGAGTTGCCCG
Slc52a3	GGGTCGGAAGCGGTGCATCA
Slc5a1	AGGAAGAATGCTACACACCG

Target gene	sgRNA sequence
Slc5a1	GAGACATGTTCTTGGCCGAG
Slc5a1	CATCGCCTACCCCACGCTCG
Slc5a1	CCGGCCACCACACCATACTT
Slc5a10	ACAGGACAGATAAGTACGTG
Slc5a10	CAGGCTCGCAGACACTCGGA
Slc5a10	AGCCGGCCAATCCTACGAAG
Slc5a10	GGTTCTTACCCATATGCCCA
Slc5a11	CGATGCCAGAATATCTAAGG
Slc5a11	GCGATGTCTGAACAGCCAGA
Slc5a11	ATGTGGAAGGCATCTTCTCG
Slc5a11	CCTGCACAATGGGGATCCAG
Slc5a12	AGGTACTCAGTTTGTCGGAG
Slc5a12	CATTATCTACATCGTACAGA
Slc5a12	TCTCGGGAATTCTTAGTAGG
Slc5a12	ATCCAAGGATCAAATCATGT
Slc5a2	ATGATTTATACTGTGACAGG
Slc5a2	CTGGCACAAAAAGCCATCCG
Slc5a2	GGTCTCTTCGACAAATACCT
Slc5a2	ATTGGTTCTGAACATAGACT
Slc5a3	CCCCTGACCGGATGTAAATG
Slc5a3	CTGACCAAGTCATCGTACAG
Slc5a3	GAACACTGCATGCAAGTGTG
Slc5a3	CTGTGTAGATCACTGCAACA
Slc5a4a	CTGACTTACCGAATACCATG
Slc5a4a	GTGGTACTGGTGCATAAACC
Slc5a4a	CCCCAGCCTTGATGTAAATG
Slc5a4a	TCTGAGTGTGTGAAGCATTG
Slc5a4b	TCAATGGTGAGAAGCAACCG
Slc5a4b	GATGCAGGCGGCCTTCACGT
Slc5a4b	AAGAACCAGCACCATAAGCA
Slc5a4b	ACACTCAGAAGGTACAACGC
Slc5a5	CTGCACCTTGTACACGACCG
Slc5a5	GCTGGCCGCTAGCTTCATGT
Slc5a5	GTCCACCAGTATCAACGCTA
Slc5a5	GTACATGCCATTGCTCGTGT
Slc5a6	GGAATCCTTACCTGCATTGA
Slc5a6	CATCCTATAGGTGATATACA
Slc5a6	CTTACTTAATCCCAGAGATG
Slc5a6	TCCGCTTCAATAAAGCAGTT
Slc5a7	CACAGCTGTGAATCCGATGT
Slc5a7	CTTGGGATCTGGATACCCGT
Slc5a7	GCCCAAGCTAGACCACAACC

Target gene	sgRNA sequence
Slc5a7	CATGGCAAGCCTACTTCCAG
Slc5a8	CATCTATTACGCCTTCGCGG
Slc5a8	CGCCCCAAAACGGTAGACCT
Slc5a8	TCTGAGAGAGACTTAAAGCG
Slc5a8	CAGGCATCAATAACTCAACA
Slc5a9	TACCTGAAGAAACGATTTGG
Slc5a9	TGAGAGCCATAACCAGCTTG
Slc5a9	AAGAATCTTTCACATGCCAA
Slc5a9	CAGACTGTGATCATGGTTGG
Slc6a1	CACCAACATGACCAGCGCCG
Slc6a1	GCAGAAATACACGAGCACCC
Slc6a1	TACCTCTGTGGGAAAAACGG
Slc6a1	TCCATGTGTCCCGGTCAGGG
Slc6a11	CTCCCAGAACTCCATGACCG
Slc6a11	AGGCATTGGCTATGCAACAC
Slc6a11	GTTGTTGTAACTCCCCAGAG
Slc6a11	GGGTACTAAGTCGACTGGAA
Slc6a12	CTGAATCACTCATCGGCCAG
Slc6a12	TCTTGGGCCTCATGTAGGTG
Slc6a12	GATGGAGTTTGTGCTGTCAG
Slc6a12	GGGAATACCCATTTCTGAAG
Slc6a13	CTTGGCCAGTACACCAACCA
Slc6a13	GTAACATCACCACAGCTCGA
Slc6a13	ACCCCAACATCACACGTCTG
Slc6a13	CCAGAACTCGATGACAGGGG
Slc6a14	CTTCTCATTCTGTTAATACG
Slc6a14	CAAGAAGAACAATTTGCCCA
Slc6a14	AATGCTAGCATGATTGCATA
Slc6a14	TCAGTAAAGTGACACTTCAG
Slc6a15	TTCCCGGTACCAGTAATAGG
Slc6a15	GAAACATATAAGGACCACGT
Slc6a15	TTGTTCCAAACATGCTGCCG
Slc6a15	ACATAAGCCCTAAATTGGGT
Slc6a17	CACGAGGGTGGCCAACACCG
Slc6a17	GGCCTCTCGGTACCAAAAGT
Slc6a17	TGTAGTACAGCCCAACGAAG
Slc6a17	GAACATGACGGACCAGAACG
Slc6a18	AGAGCGTACCTACGCCACCG
Slc6a18	GTGTACCTGTGTGTCATCAG
Slc6a18	GAATGCCACTCAGACTGCGA
Slc6a18	TTGCAAGCTACAACCCACCC
Slc6a19	ATCGGTCAGAGGCTACGCAA

Target gene	sgRNA sequence
Slc6a19	ACAGTCATCAAAGCGCTCAG
Slc6a19	AGCTGAGCAACCCCAACACG
Slc6a19	TCCGTGGCATCGAGACCACT
Slc6a2	CTTCACCACTAGTAGATCGG
Slc6a2	AGCAGTGGGATCCATGACAT
Slc6a2	AGCCGACATAGAGGGCAATG
Slc6a2	ATAAGGGAACCGCCACACGT
Slc6a20a	TACATGTTCACACCTAAGGT
Slc6a20a	AACACAGTAAGGCATCGATG
Slc6a20a	GACAATGCTGGCAAATATGG
Slc6a20a	CAACCACACAGGCTACGATG
Slc6a20b	CCACTGAATAGTAATCACAC
Slc6a20b	CTGTGCCAGATGTATGGCGG
Slc6a20b	GATGACATTGAAGTACACAG
Slc6a20b	CACAAAGTAAGGCAGTGACG
Slc6a3	TAGATGATGAAGATCAACCC
Slc6a3	GCTCGTCAGGGAGTTAATGG
Slc6a3	CAGGGAGGGTGACTCCACGC
Slc6a3	TTACTCAAAATACTCAGCAG
Slc6a4	AGTTCCCAGTACAAGCGCTG
Slc6a4	AGGAGTCAAAACGTCTGGCA
Slc6a4	TACATATGCTACCAGAATGG
Slc6a4	CCGCATATGTGATGAAAAGG
Slc6a5	GGGATGGTCACCGATAACAC
Slc6a5	GTGTACGCATCACTGGCGAA
Slc6a5	GCTTACCGGTATGGTAGTGG
Slc6a5	GAGGACGCGAACGTGAGTGT
Slc6a6	GGCCCCCAGGCAGATTGCGT
Slc6a6	GGCCAGTACACATCAGAAGG
Slc6a6	AAACAGAATAGACCAAAAGG
Slc6a6	CATGGCAAACGGGAAAGTAG
Slc6a7	TCCAGCGAATCTCCCCCGGT
Slc6a7	TCACCTTTGAAGATAACAGG
Slc6a7	GTAGACTTCGCAGCAGACAG
Slc6a7	TACCGAGCCTACACCAATGG
Slc6a8	GGAAGCGCCACACGTTACCG
Slc6a8	GCATCAGTGTGACAGCCCGT
Slc6a8	GCACAACGAGGACCACGTAG
Slc6a8	ACTCGATGACAGGGGACCGG
Slc6a9	ATACCTCTGCTATCGCAACG
Slc6a9	GTAGTACATGATACCCGTGA
Slc6a9	ATGGTGGTGTCCACATACAT

Target gene	sgRNA sequence
Slc6a9	TGTGCTACCAGCGTCTACGC
Slc7a1	GCCATGGCATAGATAACTCG
Slc7a1	CACAAACGTGAAATACGGTG
Slc7a1	TGACGTGAGAACTCTCCGAT
Slc7a1	CCAGGTCCTTCAGTTCAAAG
Slc7a10	GTGTACACAAAGGTGACCAG
Slc7a10	TGATCCCTCCAAAAGTAGAG
Slc7a10	TGAGCCAATGATGTTCCCTG
Slc7a10	GGCCATGGAGAGTACTCGAG
Slc7a11	TCATTACACATACATTCTGG
Slc7a11	GAAGAGACACAAGTCTAATG
Slc7a11	GGGCTACGTACTGACAAACG
Slc7a11	ACAGGCAGACCAGAAAACCA
Slc7a12	TGATGATCCTAGATATGAGT
Slc7a12	ATTTACCTGCTATGACGATG
Slc7a12	TGGCTTCAAGCTAACCTTAA
Slc7a12	ATTCTACTCTGCAAGTCAAG
Slc7a13	GTGGGAATTCTGAATTCTCG
Slc7a13	GGAACAGTCCATGTGAATTG
Slc7a13	AAGTACACGACAGTTACCAG
Slc7a13	AGGAATATTTGTGTCCCCCA
Slc7a14	AAATGCCACGAACTCCCCAA
Slc7a14	GGGATGCCGTGATGGCGTAA
Slc7a14	CTTCGCAGCATAGAAGCCAT
Slc7a14	TCTGGGAGTGAAAAACTCTG
Slc7a15	AGTGATGACTGCCGTCCCCC
Slc7a15	TCGCAGCTGCATAGCACACG
Slc7a15	TGCTATGCAGCTGCGAGAGA
Slc7a15	GCAGGTAACTGATATTGACC
Slc7a2	AGGACGTCACTATTCCGATG
Slc7a2	GAACGGAACAAGCATCTACG
Slc7a2	GTATCTATACACTTACGTCA
Slc7a2	CCGAGACAACATATTTGGCG
Slc7a3	ATCTATCTCACCAATGACGT
Slc7a3	GCCATTGAATACATCACCCG
Slc7a3	CACCCAGAGCCACTAAGTCG
Slc7a3	AGTGCCGTTGGATTCACTCA
Slc7a4	AGGTATGCTGAGCCAGTACG
Slc7a4	GCACAGCCTAGACCCTGACT
Slc7a4	AATAACATCAAATCCCACGA
Slc7a4	GCCATGGCGTAGACAATGCG
Slc7a5	GCCCTCCTCGCAGTACATCG

Target gene	sgRNA sequence
Slc7a5	ACCCCTACTTACGCACGCAG
Slc7a5	AGCGGCCTCTTCGCCTACGG
Slc7a5	GTAGCAGAGTGCGCCCACGA
Slc7a6	AACTGAACATGCCGAATGTC
Slc7a6	TGCATTTAGGCCCCCGAAGC
Slc7a6	ACGCCTTTAAAGGTTCCTCG
Slc7a6	CAGCCACAGCGTCACTCTTA
Slc7a7	AAGAGATCAGGAACCCCGAG
Slc7a7	CAGCGCCAACACCTTAGCAT
Slc7a7	GGCCCCGGATTTCTTAATGG
Slc7a7	GAGACACACGCCATTAAGCA
Slc7a8	TGGAGCAGTTGACCCATGTG
Slc7a8	CCTGAAGAAAGAGATCGGAT
Slc7a8	TATGTGAAGGACATCTTCGG
Slc7a8	GACTCCACCAAACGTGGACA
Slc7a9	GAGCACTTACCAACCATCGT
Slc7a9	CAAAGGCCTCCATCAGATAG
Slc7a9	GGACTGCAAGAGCTCCGTTG
Slc7a9	GCTGGCCAACACAGAATCCG
Slc8a1	CTGATTATGAATTCACGGAA
Slc8a1	AATCGCACTCTGTGTTTACG
Slc8a1	ACTCACGTGAGCGAGAGCAT
Slc8a1	CTGCAATAATAGAAACTCCA
Slc8a2	GTGGACTACCGTACCGAGGA
Slc8a2	TTCCACTGCGAGGGTCGGTG
Slc8a2	ATCCTGGACGACGACCACGC
Slc8a2	CGGCAATGATAGACACACCC
Slc8a3	AGAACAATGAGTCCTGTTCG
Slc8a3	TACCGCACAGATAAACACCG
Slc8a3	GTACGTGGACTACAAAACAG
Slc8a3	CTGGGACCATCTACCATCGT
Slc8b1	TGACCACGTAGAACACGTAG
Slc8b1	CCACACACGGCTCGGCACTG
Slc8b1	TGGACCCCGACAAGGACGAT
Slc8b1	CCACACTCACAACTTGGCCG
Slc9a1	ACGGCCAACAGGTCGACCAG
Slc9a1	GGGGCGCATCACTACTCCTG
Slc9a1	CGCCCACAAACACCCCACCG
Slc9a1	GAAGGTCCAGTTCCACTGGT
Slc9a2	GGTCAGCACCTACCCGACAG
Slc9a2	TCGAAAGGGATTTGCACGTG
Slc9a2	AGTTCATCATTGCCTACGGA

Target gene	sgRNA sequence
Slc9a2	ACGCCATGATGCCTGAAAGG
Slc9a3	CTTCATAGTGTAGCGCACAG
Slc9a3	CATTGCGCTCTGGATCCTCG
Slc9a3	ACTTACCCATCAAGCCACTG
Slc9a3	CTTGGTGAAGCGAGTCACCA
Slc9a4	AGTGAAACGTGTGATAAATG
Slc9a4	TTAGTATGTTGTATAAGACC
Slc9a4	GACCGGAGGCGATTTGTGGT
Slc9a4	GAGATGCGAGCAGTATCCAG
Slc9a5	TGCCATCCTCACCTACGCCG
Slc9a5	CTCGATGATGCGGACCCGCT
Slc9a5	AATACTGACCGACGCCCTTT
Slc9a5	CCGCATCATCGAGCCGTTGC
Slc9a6	GGAAAGTGTCCTCAATGACG
Slc9a6	GAATGCCGTACCGAAGCACG
Slc9a6	TTTAACCCAACATTTGTCGT
Slc9a6	CATATGCTAAGATAGACCCA
Slc9a7	TACTTACGAGGATAGTACAA
Slc9a7	CATGAAGGAAACGCACCCGG
Slc9a7	CAGAAATCTTATGTATGGAG
Slc9a7	CCCTGGCAAGATCAACAACG
Slc9a8	CTTATTCACCTAGGACGAGG
Slc9a8	CGCTCGACTGCTCCTCCTGC
Slc9a8	CCACCTATTATCTTTGAGTC
Slc9a8	TATCCTGACTCAAAGATAAT
Slc9a9	GCGCCGACTGATATTGATAG
Slc9a9	ATGTTGACTAGTAGAGTTGA
Slc9a9	CACTTACCCTATGACCACAC
Slc9a9	CCTCCCATCATATTTCATGC
Slc9b1	TATACTTACCAATGAGAGGT
Slc9b1	AAGAAGGGAAACACAAACGA
Slc9b1	CCCAATAAGAACGTCCCGCA
Slc9b1	TCTAGGAGAGACTTACGCAG
Slc9b2	ATACCTTTGAATCTAGACCA
Slc9b2	CTGGCAAGAGTGATAACGAA
Slc9b2	CCAACCTTACTCATGGCCGC
Slc9b2	CAGCGGTGAAAAAAAGCCAC
Slc9c1	ATGTGCTCATTAATACCACA
Slc9c1	CCAACGACAGTACAGGAATG
Slc9c1	GACCAAGTCGAGACAAGATG
Slc9c1	CTTACCAAGGTCTCTTATGG

Gibson pre seq:

GGAAAGGACGAAACACCG

Gibson post seq:

GTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC