

Library Number	RMK010
Library Name	Pentose Phosphate Pathway (PPP) Library
Old Document Name	1906028_PPP Library
Library Purpose	CRISPR/Cas9 Knockout of genes from PPP genes in mouse T cells
Location (Oligos)	targeted metabolic pathway libraries box, - 20 freezer in B3301
Designer Name	Ayaka Sugiura/Kate Beier
Designing Date	2019-06-28
Design Reference	(Brie) (Addgene#73632) (Doench et al., 2016)
Usage Reference	Ayaka Sugiura

Species	Mouse (Mus musculus)
Total Gene #	34
Total Target #	146
Gene Group	
1. Negative Controls	10 Non-targeting controls (NTCs)
2. Positive Controls	Tsc2
3. PPP genes	34
Target Number	
1. Negative Controls	10*1=10
2. Positive Controls	Tsc2
3. PPP genes	34*4=136

Note: Target selected from KEGG pathways

Number	Target.Gene.Symbol	sgRNA.Target.Sequence
1	Aldoa	AATGGCGAGACAACACTACCCA
2	Aldoa	CCTTGCCCGGAGCCACAATG
3	Aldoa	CCACGAGACACTGTACCAGA
4	Aldoa	GCCAGCATCTGCCAGCAGGT
5	Aldoart1	GCGATTGCCCATGCTTCCAA
6	Aldoart1	GTGGCTCCAGTCTTGCCACT
7	Aldoart1	GTATGGGCAGGGCATAGTTC
8	Aldoart1	GGTGACCCATGGCAACGCAC
9	Aldob	TATCCACAGTTGGACCAAGG
10	Aldob	AATTCCATTAGCCAGAGCAT
11	Aldob	CCGCCTGCAAAGGATAAAGG
12	Aldob	GGTCCCTATTGTTGAGCCAG
13	Aldoc	GCCTCTAGCTGGGACCGACG
14	Aldoc	AATCAGTGATCGCACGCCGT
15	Aldoc	AGTTGTCCGATATTGCTCTA
16	Aldoc	ACCATCATGTATACCTCGAA
17	BRDN0000737434	AAACTCCCGTGTCAACCGAT
18	BRDN0000737467	AAACCTAGCGTAGATTCGGC
19	BRDN0000737505	AAAAAGTCCGCGATTACGTC
20	BRDN0000737609	AAACTCATACGTAGCGAATC
21	BRDN0000737637	AAAACGTAATTATACCGAGC
22	BRDN0000737693	AAAACGGCTCGATCGGTGAT
23	BRDN0000737801	AAACCCCGCGCGGAGCGTC
24	BRDN0000737848	AAACGAGGCTGTTTCGTACAC
25	BRDN0000738185	AAAATTGCACCTTCCCGGCC
26	BRDN0000738254	AAAGACGTGCATTAGCGAG
27	Dera	TGAGGTCACACTCAGTTTCGAA
28	Dera	AAGTCTTACCTGAGGCCACG
29	Dera	AGTCTGCGTTTATCCCGCCC
30	Dera	CGTGGTCATTAACAGGACCT
31	Fbp1	CATGGCAAGGACCAACATGG
32	Fbp1	CACAAGAACACAGGTAGCGT
33	Fbp1	TGGCTCAACCAATGTGACTG
34	Fbp1	AACATCTACAGCCTTAATGA
35	Fbp2	ACTGTATGGTAGTGCAACCC
36	Fbp2	CCCGTTACGTTATGGAAAAG
37	Fbp2	TTGTCTTCCACAGACCACGG
38	Fbp2	TGTGATGTAGGGGAAATATG
39	G6pd2	GATGACCCACAGTACCCCG
40	G6pd2	AGTGTTGAAACGTATCTCAG
41	G6pd2	CATCCACTGTGAGTTGTGAG
42	G6pd2	ATCATACTGGCCAACTACAT
43	G6pdx	AGAGGTGGAAACTGACAACG
44	G6pdx	TGCCCGCTCACGACTCACAG
45	G6pdx	ATGACCCACAGTACCCCAT
46	G6pdx	AGAGATGGTCCAGAATCTCA

Number	Target.Gene.Symbol	sgRNA.Target.Sequence
47	Glyctk	GGTGTGATCAGCGTACCCAA
48	Glyctk	GCGGGAAAACCTCTACCTAG
49	Glyctk	CTGTGCTCAACACCATGGCA
50	Glyctk	AGTGATTGCCAGTGGCCCTA
51	Gpi1	GTACACTGGCAAATCCATCA
52	Gpi1	TTAGAGACAAACCAGACACG
53	Gpi1	CGGCAAAGATGTGATGCCGG
54	Gpi1	ACTTACCGTGTTCTGTAGACA
55	H6pd	TAGGCGTAGTAATCAGACAG
56	H6pd	CTTGAAGGAGACCATAGATG
57	H6pd	AGTTCACGCCCATACCCAG
58	H6pd	ATGTCTGCGTAGGCAAAGGG
59	Idnk	TGCCGATGATTACCACTCCG
60	Idnk	CCTTAGTAAAATGTCGTGCA
61	Idnk	GATGTTACCTGGTCGCTCAG
62	Idnk	TTCTCTCCACAGATCCACTG
63	Pfkl	GGAGATACCAGTGCGCACTG
64	Pfkl	CTGTAAGGCCTTCACTACGA
65	Pfkl	AGCCCTGCACCGCATTATGG
66	Pfkl	CCGTATGGGCATATATGTGG
67	Pfkm	CCTCACGGTAGAGCGAACAG
68	Pfkm	GCGCCTTGGATATGACACCC
69	Pfkm	TTAGACCAAAGACGTGACCA
70	Pfkm	CATAGACACGCTCTCCCACG
71	Pfkp	CAATCTGTGCGTGATCGGCG
72	Pfkp	GAAGTATTCCTACCTCAACG
73	Pfkp	TTAGATCAAAGAAATCGGCT
74	Pfkp	AAGGAAGCCGTGAAACTCCG
75	Pgd	ACAAGCAGGATGACCCGGCG
76	Pgd	AAGCTGCCATATTACCAATG
77	Pgd	CTCAAGTACCGGGACACTGA
78	Pgd	TGTTCTGGGCATGCGGCATG
79	Pgls	GGATCAGCAGGTCAAACACA
80	Pgls	GGCCGTACGTGCTCTCGGCG
81	Pgls	CTGACAGACCAAGCGCGAAG
82	Pgls	ATGCTGCAGAGGACTATGCC
83	Pgm1	CATTACCGATGGACGCGCTG
84	Pgm1	ATCATCTCTCCCCACGATCG
85	Pgm1	TGGGGGTTATATCAGAGAAG
86	Pgm1	AGGCCAACTGCACAAACTCG
87	Pgm2	CGGCCGCTTCTACATGACCG
88	Pgm2	CGCATAGACGCCATGCACGG
89	Pgm2	CAGCCAGCCATAATCCAGGA
90	Pgm2	CAGCAGCATAGGTGAGATTG
91	Prps1	GATGACTGCAGTAACCCGGC
92	Prps1	TGCAGATCATATTATCACCA

Number	Target.Gene.Symbol	sgRNA.Target.Sequence
93	Prps1	CATCTCCCACAAGTACCATG
94	Prps1	ATGTCTACATTGTTCAAAGT
95	Prps1l1	CAAGAGGGTCACTTCCATCG
96	Prps1l1	AGGAGAATATTTCTGACTGG
97	Prps1l1	GATGTCTACATCGTTCAGAG
98	Prps1l1	GGGCCTCGAGCTCAGCAAGG
99	Prps1l3	CATCTCCTACTAGTACCATG
100	Prps1l3	GCTTTCTCCAATTTCCACAC
101	Prps1l3	TGCGGATCATATTATCACCA
102	Prps1l3	CAGAAAATAGCTGACCGCCT
103	Prps2	GATCGGTGAAAGTGTGAGAG
104	Prps2	GTGGACCGGATGGTTCTCGT
105	Prps2	GGAGATTAATGACAACCTGA
106	Prps2	GGCTGATCACATCATTACCA
107	Rbks	CCGCACTAACCTGACCAGGT
108	Rbks	AAAGGCGGCCATAGTCTGCA
109	Rbks	CAATAAAAAACTCATGTCCA
110	Rbks	TTCATTATTGACAATTATGG
111	Rgn	CAAGTGCAGCGAGTTGCTGT
112	Rgn	TTACGGGAGAACTACAGGTG
113	Rgn	TGTTTGTAGGTCATAGTCAA
114	Rgn	ACAGAACTTGGTTCCAATGG
115	Rheb	AACAAACTGAATTGTCAATG
116	Rheb	CCATATCCAACAACTTGCCA
117	Rheb	TTCAGCTTGTAGACACAGCG
118	Rheb	TCATAGGATACCTATTATGT
119	Rpe	TGGTAATGACCGTAGAACCT
120	Rpe	GTTACCCGTCCATTACATCC
121	Rpe	GGTGTCTAGGCCAGAACAGT
122	Rpe	TGTCTTTAATCAAAGCCCCT
123	Rpia	ACTGCACGTGGGAACCCGAG
124	Rpia	CGTGGTTCTCCACCGCCGTG
125	Rpia	ATGATGTACCTGGAAAGATG
126	Rpia	TGACCTGGATCAACACCCAG
127	Taldo1	GCGCATCCTTGATTGGCATG
128	Taldo1	CTTCTTTGTAAAGCTCGATG
129	Taldo1	TTCTGAATTCAGGCCTCAAG
130	Taldo1	GCTTGTATTCATCGATGGCT
131	Tkt	CGTGGACGGACACAGCGTGG
132	Tkt	CAGCGCTGCAGCATGATGTG
133	Tkt	CCCACAGATAGCCACCCGGA
134	Tkt	CTCCGAGGGCTCCGTCTGGG
135	Tktl1	GTCATCAGCTACGTAAACAG
136	Tktl1	TGATGGAACGGATTTCGCAGG
137	Tktl1	AATGCAGTGCTCAACAGACA
138	Tktl1	GCCAGTATATGCCATCCCAC

Number	Target.Gene.Symbol	sgRNA.Target.Sequence
139	Tkt12	AGCACTCTATGAAACGCTCA
140	Tkt12	TGCCCACTACAGCACGACG
141	Tkt12	GTGAACCGCTTGGGACAAAG
142	Tkt12	TAGAGGTATTCCAAATGTCG
143	Tsc2	TGAACCACATGGCTATGACG
144	Tsc2	CACAGGGTGATAATGAACAG
145	Tsc2	CAGCTCCAAAGACCCTTGAG
146	Tsc2	CTGATCCTAGCACACATGTG

Original Dooc Name: 190628_PPP Library

Target.Gene.Symbol sgRNA.Target.Sequence

Aldoa	AATGGCGAGACAACTACCCA
Aldoa	CCTTGCCCGGAGCCACAATG
Aldoa	CCACGAGACACTGTACCAGA
Aldoa	GCCAGCATCTGCCAGCAGGT
Aldoart1	GCGATTGCCCATGCTTCCAA
Aldoart1	GTGGCTCCAGTCTTGCCACT
Aldoart1	GTATGGGCAGGGCATAGTTC
Aldoart1	GGTGACCCATGGCAACGCAC
Aldob	TATCCACAGTTGGACCAAGG
Aldob	AATTCCATTAGCCAGAGCAT
Aldob	CCGCCTGCAAAGGATAAAGG
Aldob	GGTCCCTATTGTTGAGCCAG
Aldoc	GCCTCTAGCTGGGACCGACG
Aldoc	AATCAGTGATCGCACGCCGT
Aldoc	AGTTGTCGGATATTGCTCTA
Aldoc	ACCATCATGTATACCTCGAA
BRDN0000737434	AAACTCCCGTGTCAACCGAT
BRDN0000737467	AAACCTAGCGTAGATTCGGC
BRDN0000737505	AAAAAGTCCGCGATTACGTC
BRDN0000737609	AAACTCATACGTAGCGAATC
BRDN0000737637	AAAACGTAATTATAACCGAGC
BRDN0000737693	AAAACGGCTCGATCGGTGAT

Target.Gene.Symbol	sgRNA.Target.Sequence
BRDN0000737801	AAACCCCCGCGCGAGCGTC
BRDN0000737848	AAACGAGGCTGTTCGTACAC
BRDN0000738185	AAAATTGCACCTTCCCGGCC
BRDN0000738254	AAAGACGTGCATTCAGCGAG
Dera	TGAGGTCACTCAGTTTCGAA
Dera	AAGTCTTACCTGAGGCCACG
Dera	AGTCTGCGTTTATCCCGCCC
Dera	CGTGGTCATTAACAGGACCT
Fbp1	CATGGCAAGGACCAACATGG
Fbp1	CACAAGAACACAGGTAGCGT
Fbp1	TGGCTCAACCAATGTGACTG
Fbp1	AACATCTACAGCCTTAATGA
Fbp2	ACTGTATGGTAGTGCAACCC
Fbp2	CCCGTTACGTTATGGAAAAG
Fbp2	TTGTCTCCACAGACCACGG
Fbp2	TGTGATGTAGGGGAAATATG
G6pd2	GATGACCCACAGTACCCCG
G6pd2	AGTGTTGAAACGTATCTCAG
G6pd2	CATCCACTGTGAGTTGTGAG
G6pd2	ATCATACTGGCCAACACTACAT
G6pdx	AGAGGTGGAAACTGACAACG
G6pdx	TGCCCGCTCACGACTCACAG
G6pdx	ATGACCCACAGTACCCCAT

Target.Gene.Symbol	sgRNA.Target.Sequence
G6pdx	AGAGATGGTCCAGAATCTCA
Glyctk	GGTGTGATCAGCGTACCCAA
Glyctk	GCGGGAAAACCTCTACCTAG
Glyctk	CTGTGCTCAACACCATGGCA
Glyctk	AGTGATTGCCAGTGGCCCTA
Gpi1	GTACACTGGCAAATCCATCA
Gpi1	TTAGAGACAAACCAGACACG
Gpi1	CGGCAAAGATGTGATGCCGG
Gpi1	ACTTACCGTGTTTCGTAGACA
H6pd	TAGGCGTAGTAATCAGACAG
H6pd	CTTGAAGGAGACCATAGATG
H6pd	AGTTCCACGCCCATACCCAG
H6pd	ATGTCTGCGTAGGCAAAGGG
Idnk	TGCCGATGATTACCACTCCG
Idnk	CCTTAGTAAAATGTCGTGCA
Idnk	GATGTTACCTGGTCGCTCAG
Idnk	TTCTCTCCACAGATCCACTG
Pfkl	GGAGATACCAGTGCGCACTG
Pfkl	CTGTAAGGCCTTCACTACGA
Pfkl	AGCCCTGCACCGCATTATGG
Pfkl	CCGTATGGGCATATATGTGG
Pfkm	CCTCACGGTAGAGCGAACAG
Pfkm	GCGCCTTGGATATGACACCC

Target.Gene.Symbol	sgRNA.Target.Sequence
Pfkm	TTAGACCAAAGACGTGACCA
Pfkm	CATAGACACGCTCTCCCACG
Pfkp	CAATCTGTGCGTGATCGGCG
Pfkp	GAAGTATTCTACCTCAACG
Pfkp	TTAGATCAAAGAAATCGGCT
Pfkp	AAGGAAGCCGTGAAACTCCG
Pgd	ACAAGCAGGATGACCCGGCG
Pgd	AAGCTGCCATATTACCAATG
Pgd	CTCAAGTACCGGGACACTGA
Pgd	TGTTCTGGGCATGCGGCATG
Pgls	GGATCAGCAGGTCAAACACA
Pgls	GGCCGTACGTGCTCTCGGCG
Pgls	CTGACAGACCAAGCGGAAG
Pgls	ATGCTGCAGAGGACTATGCC
Pgm1	CATTACCGATGGACGCGCTG
Pgm1	ATCATCTCTCCCCACGATCG
Pgm1	TGGGGGTTATATCAGAGAAG
Pgm1	AGGCCAACTGCACAACTCG
Pgm2	CGGCCGCTTCTACATGACCG
Pgm2	CGCATAGACGCCATGCACGG
Pgm2	CAGCCAGCCATAATCCAGGA
Pgm2	CAGCAGCATAGGTGAGATTG
Prps1	GATGACTGCAGTAACCCGGC

Target.Gene.Symbol	sgRNA.Target.Sequence
Prps1	TGCAGATCATATTATCACCA
Prps1	CATCTCCCACAAGTACCATG
Prps1	ATGTCTACATTGTTCAAAGT
Prps1l1	CAAGAGGGTCACTTCCATCG
Prps1l1	AGGAGAATATTTCTGACTGG
Prps1l1	GATGTCTACATCGTTCAGAG
Prps1l1	GGGCCTCGAGCTCAGCAAGG
Prps1l3	CATCTCCTACTAGTACCATG
Prps1l3	GCTTTCTCCAATTTCCACAC
Prps1l3	TGCGGATCATATTATCACCA
Prps1l3	CAGAAAATAGCTGACCGCCT
Prps2	GATCGGTGAAAGTGTGAGAG
Prps2	GTGGACCGGATGGTTCTCGT
Prps2	GGAGATTAATGACAACCTGA
Prps2	GGCTGATCACATCATTACCA
Rbks	CCGCACTAACCTGACCAGGT
Rbks	AAAGGCGGCCATAGTCTGCA
Rbks	CAATAAAAAACTCATGTCCA
Rbks	TTCATTATTGACAATTATGG
Rgn	CAAGTGCAGCGAGTTGCTGT
Rgn	TTACGGGAGAACTACAGGTG
Rgn	TGTTTGTAGGTCATAGTCAA
Rgn	ACAGAACTTGGTTCCAATGG

Target.Gene.Symbol	sgRNA.Target.Sequence
Rheb	AACAAACTGAATTGTCAATG
Rheb	CCATATCCAACAACCTTGCCA
Rheb	TTCAGCTTGTAGACACAGCG
Rheb	TCATAGGATACCTATTATGT
Rpe	TGGTAATGACCGTAGAACCT
Rpe	GTTACCCGTCCATTACATCC
Rpe	GGTGTCTAGGCCAGAACAGT
Rpe	TGTCTTTAATCAAAGCCCCT
Rpia	ACTGCACGTGGGAACCCGAG
Rpia	CGTGGTTCTCCACCGCCGTG
Rpia	ATGATGTACCTGGAAAGATG
Rpia	TGACCTGGATCAACACCCAG
Taldo1	GCGCATCCTTGATTGGCATG
Taldo1	CTTCTTTGTAAAGCTCGATG
Taldo1	TTCTGAATTCAGGCCTCAAG
Taldo1	GCTTGTATTCATCGATGGCT
Tkt	CGTGGACGGACACAGCGTGG
Tkt	CAGCGCTGCAGCATGATGTG
Tkt	CCCACAGATAGCCACCCGGA
Tkt	CTCCGAGGGCTCCGTCTGGG
Tktl1	GTCATCAGCTACGTAAACAG
Tktl1	TGATGGAACGGATTGCGAGG
Tktl1	AATGCAGTGCTCAACAGACA

Target.Gene.Symbol	sgRNA.Target.Sequence
Tktl1	GCCAGTATATGCCATCCCAC
Tktl2	AGCACTCTATGAAACGCTCA
Tktl2	TGCCACACTACAGCACGACG
Tktl2	GTGAACCGCTTGGGACAAAG
Tktl2	TAGAGGTATTCCAAATGTCG
Tsc2	TGAACCACATGGCTATGACG
Tsc2	CACAGGGTGATAATGAACAG
Tsc2	CAGCTCCAAAGACCCTTGAG
Tsc2	CTGATCCTAGCACACATGTG