

Library Registration Form

Library Number	RMK016
Library Name	BCL-2 & Mitochondrial Fission/Fusion Library
Old Document Name	BCL-2 & Mito Fission/Fusion Gene List
Library Purpose	CRISPR/Cas9 Knockout of genes associated with the BCL-2 family and mitochondrial fission/fusion in mouse T-cells.
Vector	pMx-U6-gRNA-PGK-GFP (Retrovirus)
Location	Main Lab, -20°C Freezer, Bottom left rack, BCL-2 Library SS Box, Green cap tube
Designer Name	Sam Schaefer
Designing Date	Feb-20
Design Reference	n/a
Usage Reference	n/a
Species	Mouse (<i>Mus musculus</i>)
Total Gene #	32
Total Target #	138
Gene Group	
1. Negative Controls	(Nontargeting controls from BRIE library)10
2. Positive Controls	n/a
3. BCL-2/Mito Genes	32
Target Number	
1. Negative Controls	10*1 = 10
2. Positive Controls	n/a
3. BCL-2/Mito Genes	32*4=128

Genes	sgRNA Seqs
BCL-2	ACATCTCTGCGAAGTCACGA GTGGCAACGAGGGGCCTGAG ACCTGACGCCCTTCACCGCG TGTCACAGAGGGGCTACGAG
BCL2L1 (BCL-X)	AGTAAACTGGGGTCGCATCG CAGGCGATGAGTTTGAAGT TGTCGAAGAGAATAGGACTG CTGCTCAAAGCTCTGATACG
BCL2L2 (BCL-W)	ACTTTGTAGGCTATAAGCTG TGGGGTCACGTGTAGCTGAG TTCCAAGGGGGCCCTAACTG AGCCCAGCAACGCTTCACCC
BCL2A1 (ACC-1)	TTTGTAAGCACATACATCCA ATGGAAAAAGAGTTTGAAGA AGCACTCTGCATGCTTGGCT GCTCATGCATATCCACTCCC
MCL1	CTCCTCCGGAGACACGATGG AGATCATCTCGCGCTACTTG CGTGCAGCGCAACCACGAGA CGGCCGACGCGGTGACGTCG
BCL2L13 (BCL-RAMBO)	CTGAGGAGGAGGAATACCCG GTCACTGTCGGGGATTGAGG AGGTGTTGTAGCAAACTAG GGGTTAGCAGGGCTAAACAC
BCL2L10 (Boo/Diva/BCL-B)	AAGGCCGCCTCGACAGACGT ACTACATATTCTTCTGCGCA ATTCATAAGCGTCCCCGCGA CACTGCATGAACGCACTAGA
BCL2L12	CAGGCTCGGAACCATAGCAG CCCTAGGAGTCCTGCCAAG GGGGAGAGGAGCTCCCCCA CTGACGGCCTTCCTTAAGCG
BCL2L14 (BCL-G)	GGCTTGTATTGCCAACAGAG CCTTTATTCTTAGAGTCACA TTGGAGAACACTCTTCAGGG TTCCCGGTAGAGCGGCAGAG
BCL2L15 (Bfk)	GATCACCAGTATTCGAAGG CAGCAGAACCTGGTGCCTC TTCTGCCAATAATATCATTG ATAGGTTCCGGTTAGCAGCG
BNIP2	CAATCCTGAACATGCGCCAG ACTACTGAAGTCATTAGGAA

Genes	sgRNA Seqs
BAX	TCCAGCTTCATCCAAATCAT AAAAAAGTTATTAGCCATGG GGACACGGACTCCCCCGAG CAACTTCAACTGGGGCCGCG CCAGTTCATCTCCAATTCGC
BAK1	GTTTCATCCAGGATCGAGCA GCCACAGCCTATTTAAGAG GCAGGAGGCTCTTACCAGAA GGTAGACGTACAGGGCCAGA GGAActCTGTGTCGTAGCGC
BOK	TCCCAGCGTATAACCGAACG CCCTGTATTCCGTGGCCGCG GCCGGGAGTACGTGCACGCG CTCTCTCTAGGTATCACATG
BID	CCACAACATCCAGCCCACAC GCCTGTGCAAGCTTACTGGG GCCAGCCGCTCCTTCAACCA CATGAATGGCAGCCTGTCGG
BCL2L11 (BIM/BOD)	AGGTAATCCCGACGGCGAAG AAAAGAGAAATACCCACTGG CAACCACTATCTCAGTGCAA GTTGACTTGTCACTCAT
BAD	TCGCCACAGTTCGTACCCAG GTTGCTCCCCAGGAGACCTG GCCACCAACAGTCATCATGG AGACGCTAGTGCTACAGATA
BMF	GCCCTGGCATCACAACCTCGG TCTAGCTCCTCCACACACTG GAAGAGCTGGAGTCGACTGA CAATACCGCGCGGTGTGCCG
PMAIP1 (NOXA)	GAGACAAAGTGTATTGCACG GCAGCTCAACTCAGGAAGAT TGCCCGGGAGAAAGGCGCGT ACGCGCCAGTGAACCCAACG
HRK (DP5)	TGCCCGTGTCCCCGGCATCG CGCGGGCCCCGGCCGTGTG GCGCCATGCGGCGTCGCGCG CGCGACGCCGCATGGCGCGT
BBC3 (PUMA)	TCGCGGGCTAGACCCTCTAC GGGCGACTCTAAGTGCTGCT AGGCTGCAGGATACAGCGGA GGTCACCGCAGCCGGCCAG

Genes	sgRNA Seqs
BNIP1	GATTGTCAAATTCGACCTAG GAGGAGACTCCTTACGGCAA AGGAGCTCGAACAGTCAGCA CCATCACAGAGAGTCTCATG
BNIP3	TGAAAACGGACTTACTTGG GTCACCATTATAAATAGAGA GCTGAAGTGCAGTTCTACCC TGGCGAGAAAAACAGCACTC
BIK	TGCCTGGGATTGCTATACAC GACGGGGGCTCCGCAGACAC CAAGACTGTTCCACACGACC TACAGCCGGACAGGTGTCAG
DNM1L	AATCGTGTTACAATACTCTG GTGACCACACCAGTTCCTCT GATGCCATGGATGTATTGAT GCACAAATAAAGCAGGACGG
FIS1	GGTTCGAAGCAAATACAATG CTTGAGCCGGTAGTTGCCCA GCACGCAATTTGAATATGCC AGGCTCTAAAGTATGTGCGA
MFF	GGATAAGCGACAAAATGCCA TGTTCCGCAAAATGGACAGT AGGTATTAGTCAGCGAATGA GCAAGTCCCAGAGAGGATCG
MFN1	ACTTGATCGAATAGCATCCG TTTACCTGTCTACTAAAACC CATACTGGACTCAGTAAACG GCTCAAGGTTGTAAGTCCGT
MFN2	CCGAGGCAGACGCATCCCAG AGAACTGGACCCGTTACCA ATAAACCTTGAGGACAACCTG GTGGTATGACCAATCCCAGA
OPA1	GCGCCTGCGAGAGCTCGACA AAGTGACAAGCATTACAGGA AGAGCGTGTTCATCATCTCGC AGGTTGTAAGTTAGCCCCG
PLD6	TGCGACTACATGGCCCTCAA AAGAAGAGCACCTCGCGCCT AGGCTTTACTGCAGGCCCA GGGTCTCGCGCTGGCCCTAG
MIEF1	GGTAGCCACCTACAACACAT CTCTCCTCGCCTATTGAACA

Genes	sgRNA Seqs
	TTGCCACACTGGCAGTTAAG
	CTTCGGGACATGTACTTGAG
Control 1	AAAAAGTCCGCGATTACGTC
Control 2	AAAACGGCTCGATCGGTGAT
Control 3	AAAACGTAATTATACCGAGC
Control 4	AAAATTGCACCTTCCCGGCC
Control 5	AAACCCCGCGCGGAGCGTC
Control 6	AAACCTAGCGTAGATTGCGC
Control 7	AAACGAGGCTGTTCGTACAC
Control 8	AAACTCATACTAGCGAATC
Control 9	AAACTCCCGTGTCAACCGAT
Control 10	AAAGACGTGCATTTCAGCGAG

Genes	sgRNA Seqs	Forward Flank	Aft Flank	Complete sgRNA Sequence
BCL-2	ACATCTCTGGGAAGTCAGA	GGAAGGACGAAACACCG	GTTTTAGAGCTAGAATAAGCAAGTTAAAATAGGC	GGAAAGGACGAAACCCGACATCTCTGGGAAGTCAGAGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L1 (BCL-X)	AGTAAACTGGGGCGCATCG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L2 (BCL-W)	ACTTTGATGGCTATAAGTGC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2A1 (ACC-1)	TTTGTAGCACATACATCA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
MCL1	CTCCCTGGGAGACAGATGG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L13 (BCL-RAMBO)	CTGAGGAGGGAATACCCG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L10 (Boo/Div1/BCL-B)	AAAGCGCTCGACAGAGCT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L12	CAGGCTGGAAACATGACAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L14 (BCL-G)	GGCTGTATTGCCAACAAGAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L15 (Bfk)	GATCACCCAGTATTGAGAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BNIP2	CAATCTGAACATGGCCAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BAX	GGACACGGACTCCCCGAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BAK1	GCCACAGCTATTAAAGAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BOK	TCCCAGGTATACGGAAACG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BID	CCACAACATCCAGCCACAC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L11 (BIM/BOD)	AGSTAATCCCGACGGCAAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BAD	TCCGACAGTCTGATCCAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BMF	GCCCTGGCTACAACCTGG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
PMaIP1 (NOXA)	GAGACAAGGTATTGACAGC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
HRK (DPS)	TGCCCGTGTCCCGGCGAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BBC3 (PUMA)	TGCGGGCTAGACCTCTAC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BNIP1	GATTTGCAAAATGCAACTAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BNIP3	TGAAAACGGACTTCTTGG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BIK	TGCTTGGGATGCTATACAC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
DNM1L	AATCGTGTATAACAATCTGT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
FIS1	GGTTGGAAGCAATACAACT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
MF1	GGATAAGCGACAAATGCA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
MF2	CCGAGCGAGACGATCCGAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
OPA1	CGGCTGTGAGAGCTCGACA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
PLD6	TGCGACTACATGGCCCTCAA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
MIEF1	GGTAGCCACCTACAACACT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 1	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 2	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 3	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 4	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 5	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 6	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 7	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 8	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 9	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 10	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL-2	TGTCAGAGAGGAGTACGAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L1 (BCL-X)	TGCTCAAGCTCTGATACG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L2 (BCL-W)	AGCCAGCAACCTCATACC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2A1 (ACC-1)	GCTCATGCATACCACTCC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
MCL1	CGGCCGAGCGGGTACGCG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L13 (BCL-RAMBO)	GGGTTAGCAGGGCTAAACAC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L10 (Boo/Div1/BCL-B)	CACTGATCAAGCACTAGA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L12	CTGACGGCTCTCTAAAGCG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L14 (BCL-G)	TTCCCGGTAGAGCGACAGAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L15 (Bfk)	ATAGGTTCCGGTATGACAGC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BNIP2	AAAAAAGTATTAGCAATGG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BAX	GTTCATCCAGGATGACGCA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BAK1	GGAACTGTGTCTGAGCGC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BOK	CTCTCTAGGATACACATG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BID	CATGAATGGACCTGTCCG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L11 (BIM/BOD)	GTGACTTGTCAACACTCAT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BAD	AGACGCTAGTGCTACAGATA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BMF	CAATACCGCGGTTGTCCG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
PMaIP1 (NOXA)	ACGCGCCAGTGAACCAACG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
HRK (DPS)	CGCGACCGCGATGGCGCGT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BBC3 (PUMA)	BGTCACCGGACCGCGCCAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BNIP1	CCATCAAGAGATCTCATG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BNIP3	TGGCGAGAAAACAGCACTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BIK	TACAGCCGACAGGTTCTAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
DNM1L	GCACAAATAAGCAGGACGG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
FIS1	AGGCTCTAAAGTATGTGCGA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
MF1	GCAAGTCCAGAGAGATGCG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
MF2	GCTCAAGTGTGATGCTCGT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
OPA1	AGGTTGTACTGTAGCCCGC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
PLD6	GGGTTCCGCGCTGGCCCTAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
MIEF1	CTTCGGACATGACTTCTGAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 1	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 2	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 3	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 4	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 5	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 6	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 7	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 8	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 9	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
Control 10	AAAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL-2	ACCTGACGCCCTTCCAGCG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L1 (BCL-X)	TGTCAGAGAGAAATAGGACTG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L2 (BCL-W)	TTCCAAGGGGGCCTAAGTCT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2A1 (ACC-1)	AGCACTCTGCATGCTTGCT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
MCL1	CGTGACGCGCAACAGGACA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L13 (BCL-RAMBO)	AGGTTGTTGAGAAACACTAG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L10 (Boo/Div1/BCL-B)	ATTCAAGAGCTCCCGCGCA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L12	GGGGAGAGGAGATCCCGCCA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L14 (BCL-G)	TTGAGAAACACTCTCAAGCG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L15 (Bfk)	TTCTGCAATAATATCACTG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BNIP2	TCCAGCTTCATCCAATCTG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BAX	CAAGTTCATCTCAATCTCG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BAK1	GGTAGACGTACAGGGCCAGA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BOK	GCCGGAGTACGTGACCGCG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BID	GCCAGCGCTCTCTCAACCA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BCL2L11 (BIM/BOD)	CAACCACTATCTCAGTCCAA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BAD	GCCACCAACGATCATCTAGT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BMF	GAAAGCTGAGAGTCACTGCA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
PMaIP1 (NOXA)	TGCCCGGGGAGAAAGCGCGT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
HRK (DPS)	GCCCTACGCGGCTGCGCGG			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BBC3 (PUMA)	AGGCTGAGGATACAGCGGA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BNIP1	AGGAGCTCGAACCTAGACA			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BNIP3	GCTGAAGTGCAGTCTACCC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
BIK	CAAGACTCTCCACAGCAC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
DNM1L	GATGCCATGGATGATTGAT			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC
FIS1	GCACCAATTTGAAATATGCC			GGAAAGGACGAAACCCGAGTAACTGGGGCGCATCGTTTATAGAGCTAGAATAAGCAAGTTAAAATAGGC

Genes	sgRNA Seqs	Forward Flank	Aft Flank	Complete sgRNA Sequence
MFF	AGGTATTAGTCAGCGAATGA			GGAAAGGACGAAACCCGAGGTATTAGTCAGCGAATGAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
MFN1	CATACTGGACTAGTAAACG			GGAAAGGACGAAACCCGCATAGTAAACGGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
MFN2	ATAAACCTTGGAGCAACTG			GGAAAGGACGAAACCCGATAAACCCTTGGAGCAACTGGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
OPA1	AGAGCGTGTCTATCTCGC			GGAAAGGACGAAACCCGAGCGGTGTCTATCTCTCGCGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
PLD6	AGGCTTACTCGAGGCCCA			GGAAAGGACGAAACCCGAGCGTTACTCGAGGCCCAAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
MIEF1	TTGCCAACTGGCAGTTAAG			GGAAAGGACGAAACCCCTTGGCCAACTGGCAGTTAAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 1	AAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAAAGTCCGCGATTACGTCGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 2	AAAACGGCTCGATCGGTGAT			GGAAAGGACGAAACCCGAAACGGCTCGATCGGTGATTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 3	AAAACGTAATTATACCAGG			GGAAAGGACGAAACCCGAAACGTAATTATACCAGGCTTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 4	AAAAATGGCACTTCCCGCC			GGAAAGGACGAAACCCGAAATGGCACTTCCCGCGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 5	AAAACCCGCGGAGCGTCT			GGAAAGGACGAAACCCGAAACCCCGGAGCGTCTTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 6	AAACCTAGCTAGATTCCGG			GGAAAGGACGAAACCCGAAACCTAGCTAGATTCCGGCTTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 7	AAACGAGCTGTTCTGACAC			GGAAAGGACGAAACCCGAAACGAGCTGTTCTGACAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 8	AAACTCATAGTACGCAATC			GGAAAGGACGAAACCCGAAACCTCATAGTACGCAATCCTTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 9	AAACTCCCGTGTCAACGAT			GGAAAGGACGAAACCCGAAACCTCCGTTGTCAACGATTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 10	AAAGACGTGCATTCAGCGAG			GGAAAGGACGAAACCCGAAAGACGTGCATTCAGCGAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BCL-2	GTGGCAACGAGGGCGTGAG			GGAAAGGACGAAACCCGGTGGCAACGAGGGCGTGAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BCL2L1 (BCL-X)	CAGGCGATGAGTTGAACTG			GGAAAGGACGAAACCCGAGCGGATGAGTTGAACTGGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BCL2L2 (BCL-W)	TGGGGTACGTTGAGCTGAG			GGAAAGGACGAAACCCGGTGGGTGAGCTGAGTTGAGCTGAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BCL2A1 (ACC-1)	ATGGAAGGAGATTTGAAAGA			GGAAAGGACGAAACCCGATGGAAGGAGTTTTGAGAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
MCL1	AGATCATCTCGCTACTTG			GGAAAGGACGAAACCCGAGATCATCTCGCTACTTGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BCL2L13 (BCL-RAMBO)	GTCACTGTCGGGGATTGAGG			GGAAAGGACGAAACCCGCTCACTGTCGGGGATTGAGGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BCL2L10 (Boo/Divi/BCL-B)	ACTACATATTCTCTGGCA			GGAAAGGACGAAACCCGACTACATATTCTCTGGCAAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BCL2L12	CCCTAGGAGCTCTGCCAAG			GGAAAGGACGAAACCCCTAGGAGCTCTGCCAAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BCL2L14 (BCL-G)	CCTTTATTCTAGAGTACA			GGAAAGGACGAAACCCCTTTATTCTAGAGTACAAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BCL2L15 (Btk)	CAGCAAGAACTGGTCACTC			GGAAAGGACGAAACCCGCAAGAACTGGTCACTCCTTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BNIP2	ACTACTGAAGTATTAGAAA			GGAAAGGACGAAACCCGACTGAAGTATTAGAAAAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BAX	CAACTTCACTGGGGCCGCG			GGAAAGGACGAAACCCCAACTCACTGGGGCCGCGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BAK1	GCAGGAGCTTCTACAGAA			GGAAAGGACGAAACCCGAGGAGCTTCTACAGAAAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BOK	CCCTGTATCCGTGGCCGCG			GGAAAGGACGAAACCCGCTGTATCCGTGGCCGCGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BID	GCCTGTGCAAGTCTTAGGG			GGAAAGGACGAAACCCGGCTGTGCAAGTCTTAGGGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BCL2L11 (BIM/BOD)	AAAAGAGAAATACCCTGG			GGAAAGGACGAAACCCGAAAAGAGAAATACCCTGGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BAD	GTGTGCCCAAGGAGCACTG			GGAAAGGACGAAACCCGGTGTGCCCAAGGAGCACTGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BMF	TCTAGCTCTCCACACACTG			GGAAAGGACGAAACCCGTCTAGCTCTCCACACACTGGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
PMAIP1 (NOXA)	GCAGCTCACTAGGAAGAT			GGAAAGGACGAAACCCGGCAGCTCACTAGGAAGATTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
HRK (DP5)	CGCGGGCCCGCCGGTGTG			GGAAAGGACGAAACCCGCGCGGGCCCGCCGGTGTGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BBC3 (PUMA)	GGGCGACTTAAGTGTGCT			GGAAAGGACGAAACCCGCGGCGACTTAAGTGTGCTGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BNIP1	GAGGAGACTCTTACGCGAA			GGAAAGGACGAAACCCGAGGAGACTCTTACGCGAAAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BNIP3	GTCCACATTATAATAGAGA			GGAAAGGACGAAACCCGATTCACATTATAATAGAGAAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
BIK	GACGGGGCTCCGAGACAC			GGAAAGGACGAAACCCGAGCGGGCTCCGAGACAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
DNM1L	GTGACCACACCACTTCTCT			GGAAAGGACGAAACCCGGTGTGACCACCACTTCTCTTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
FIS1	CTTGAGCCGAGTGGCCCA			GGAAAGGACGAAACCCGTGAGCCGAGTGGCCCAAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
MFF	TGTTCCGCAAAATGAGCAGT			GGAAAGGACGAAACCCGTGTTCCGCAAAATGAGCAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
MFN1	TTTACTGTCTACTAAAAAC			GGAAAGGACGAAACCCGTCTACTGTCTACTAAAAACGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
MFN2	AGAAGTGGACCCGTTACCA			GGAAAGGACGAAACCCGAGAACTGGACCCGTTTACCAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
OPA1	AAGTGACAGCAATCACAGCA			GGAAAGGACGAAACCCGAGATGACAGCAATCACAGGATTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
PLD6	AAGAAGAGCACTCCGCGCT			GGAAAGGACGAAACCCGAAAGAGCACTCCGCGCTTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
MIEF1	CTCTCCCTGCAATTGAACA			GGAAAGGACGAAACCCGCTCTCTCCCTGCAATTGAACAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 1	AAAAGTCCGCGATTACGTC			GGAAAGGACGAAACCCGAAAGTCCGCGATTACGTCGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 2	AAAACGGCTCGATCGGTGAT			GGAAAGGACGAAACCCGAAACGGCTCGATCGGTGATTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 3	AAAACGTAATTATACCAGG			GGAAAGGACGAAACCCGAAACGTAATTATACCAGGCTTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 4	AAAAATGGCACTTCCCGCC			GGAAAGGACGAAACCCGAAATGGCACTTCCCGCGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 5	AAAACCCGCGGAGCGTCT			GGAAAGGACGAAACCCGAAACCCCGGAGCGTCTTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 6	AAACCTAGCTAGATTCCGG			GGAAAGGACGAAACCCGAAACCTAGCTAGATTCCGGCTTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 7	AAACGAGCTGTTCTGACAC			GGAAAGGACGAAACCCGAAACGAGCTGTTCTGACAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 8	AAACTCATAGTACGCAATC			GGAAAGGACGAAACCCGAAACCTCATAGTACGCAATCCTTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 9	AAACTCCCGTGTCAACGAT			GGAAAGGACGAAACCCGAAACCTCCGTTGTCAACGATTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC
Control 10	AAAGACGTGCATTCAGCGAG			GGAAAGGACGAAACCCGAAAGACGTGCATTCAGCGAGTTTTAGAGCTAGAAAATAGCAAGTAAAAAAGGC