

File S1

Sequence raw data for genes listed in Figure 2B

unc-104^{bris} R561H

CGCTGCTCAGAAACGATGGTGTGGAGCATGCGCGGGATTCTCACGAAGAAGACTCCGCATTTGGTCAACCTAAACGAGGATCCCAATC
TGTCTGAGTGTCTGCTTTACTACATCAAGGAGGGTCTAACTCGGTTGGGTACCCATGAAGCAAATGTGCCCCAGGACATTAGCTCTCCG
GATCGCACATCCTCAAGGAGCACTGCACCTTTGAGAACAAGAACAGCACGGTTACATTGCTGCCACACAAGGATGCTATCATCTATGTAA
ATGGACGCAAGTTGGTTGAACCGGAGGTTCTTAAGACCGGTTCTCACGTGATCCTCGGAAAGAACCACGTGTTCCGCTTTACCAATCCAG
AACAGGCACGCGAATTACGGGATAAGATCGAGACCGAAAATGAGGCTGAGAACGAAGTGGAGAAGACAGACCCAGCAGGTGGACT
GGAACCTTGCCAGTGCGAATTGCTCGAGAAGCAAGGCATTGATCTAAAAGCTGAAATGAAGAAGCGTTTAGACAACCTTGAGGAAACA
GTACAAGCGGGAGAACTTCAGGCCGATCAGCAATTCGAGGAGCAGCGCAAACGTACGAGGCTCGCATCGATGCTTTGCAAAAACAG
GTTAGAAGACAAATCCAATGAA

unc-104^{bris} V772L

AAGGAGCCAGTGCCGTTCCGTTGAGTTAAAGAAGAAGGTACATAGTTTACGCCTATTACTTAACATAATAGATTAGAGATCATATACTT
AAATATTTATTTAGGTACAATTCCAATTTACTCTCTTGACCGACACCTTGACTCTCCTTTGCCGCTGAGCTGGCATCCACTGTGGCTCCT
TTGCATCAGGAGGATGAGTTCGGAGCTCCACCTGTCTAAGACCTTGGTGGCCGTCGAAGTTACCGATACTAAGAACGGAGCCACTCA
CCACTGGTCTCTGGAGAAGTTACGGTAGGTTCTTTATATCCGGAATCCATGCGAATTCCTGCTACTCCCTCACATTCATTCTCTGCA
CTTTGGTTAAAATTAATAAAAAAAGCTGGCTTTTGATTTGAGTTGAATATTTAAATAATACGTGCATGGGGGTTGTAGTTCATGGATT
CTAGTTTCTATCAAACGCTCTAAAATTTGTTGGTTACTTTTATACTTTGGCTGTAATAAAGCAGAAAAAATCACAA

unc-104^{bris} D1073E

TTCAAGATTTCAACCAAACCAAAACATCGTGCTTAGCCAAAACCGTAGACGTGGGTGCACATGGTAGTGGTCCAAATTTGGGACTACGCA
CTGGCTGACTGATTGGTATGCTCGGTGGCAACATGCGACGTGGTGGTGGCCGGAAACAACTCCTGTTGGCATCCTTATGCAATGGG
TGCGTCTGGTAGTGCCAAATATCTTGAACATTATGGGTTGGGTTCTCAATACTCGATGAAGGATTTGGTTACGGGTACAGTTATCTAC
AGAAAAGATAACAGTTAATAATTGATATGGTGGAAAGCTCTTGGTAATCTTGAATCTTCCACTTACGTTCTGAACATGGTAGAAGCCTA
GAGGAGCACCCGATGCCGAATTTGACGGGTTCCGGTGGAGAAAGCCTCCTCATGACGATGCAAAAAGCTGAAAGGTAACAGTTTATA
AACCACAAACCTAAAGTTAATTTCCGAAAGATTACGTACTTGAACCTGGCAGAAGATATCGGCATATTCAGCCCAATACCAAGTGGCCTGT
AGCACAGTGACCCGAAAGTGAACCTCTTGCACCTGCAGATGCTCGCCAGGCTCCTCCGAATTTCTGTTGCACTCGGATGCGGAGTTA
GAGTCAATGCCACGACCAGAG

unc-104^{bris} V1170M

ACGTCGTCGAGTCCAGGCAGCCTCAAACGGTAGAAAAGATCTATCATCTCCGGGCACCTCAAAGCCTCGCCTGGGAACAAGCCCAAAGA
TAAGACACAGGCGTCTTCGTCCTGTCGCGATGACTCCGGTGTATTGCGGATACGTCCAACCACCAACTATTGATGTCCTTCCACTTC
ATCTCGGTTGTGGGCTCATGTACGATAGTAATACGAATGCGCCGCTGGATGCCCTGATGCAAGAGGAACAGTCCGCGCAGGGAAGAT
CATCGCTGTGCTCCACCACCTGTTGACAAATTTATGTTTGGATTATTGCGTGTGAGACTGGGAAAGATTACATCTGCGCCATACTAACCGA
TGGCACATATTCTCATTGGGAGCCAATTCACAGATTTCAAACCAACCAAAAACATCGTGCTTAGCCAAAACCGTAGACGTGGGTGCACA
TGGTAGTGGTCCAAATTTGGGACTACGCACTGGCTGACTGATTGGTATGCTCGGTGGCAACATGCGACGTGGTGGTGGCCGGGAAACA
AACTCCTGTTTGGCATCCTTATGCAATGGGTGCGTCTGGTAGTGCCAAAATATCTTGGA

unc-104^{bris} A1405V

TTGTGACACCAGCTCTACTTATGTGCGCGGCGAGGAGAATCTTCATGGCTGGAGGCCAAGGGGTGACTCCCTGATCTTCGATCACCAGT
GGGAGCTGGAGAACTCACCAGACTTGAAGAGGTTGGACGCATGCGGCACTTGCTTCTGCTGCGGAACGCTGGGCATGGACACCAA
CCCGAATCCGACCACCAAGACCGAGAAGGATGTTTGCAATCTAGCTGCTCGGGCAGTCACATCACCCGTACATATGGTCATTCCACAATC
GCCGAGACTCCGGTCAAGGACCCACAGCAAATCATTCCAGAACGCGAGTACAACCAACGGGAGCAGGATCTCATGCTTAAATGCTTAA
AATTGGTGACGGGTGAGTTAATACTGAGACTTACCAAGCGTTCATTCACTCTATTCTAAATTCATTTAAGGACGCTATACTAAGAGCGA
GGCCAACGATACGAAACTCAGTCGGATGTTTCGCTAGCGATGAGGGATGTGCCGATATGACCGTCAGCTGCATCTCCAGCAATCCAT
GGAGTGAGTAGTCGTTTAGCCACCCGTATAAACACACCACCCACACCAGCACCACCCATCTTAGTTAGCTG

parental R561R

CGGCTGCGCACGTATGATGGATATCAGTTGGCGTATTCTCACCGAAGAAGACTCCGCATTTGGTCAACCTAAACGAGGATCCCAATCTGT
CTGAGTGTCTGCTTTACTACATCAAGGAGGTTCTAACTCGGTTGGGTACCCATGAAGCAAATGTGCCCCAGGACATTCAGCTCTCCGGAT
CGCACATCTCAAGGAGCACTGCACCTTTGAGAACAAGAACAGCACGGTTACATTGCTGCCACACAAGGATGCTATCATCTATGTAAATG
GACGCAAGTTGGTTGAACCGGAGGTTCTTAAGACCGGTTCTCGCGTGATCCTCGGAAAGAACCAGTGTTCCGCTTTACCAATCCAGAAC
AGGCACGCGAATTACGGGATAAGATCGAGACCGAAAATGAGGCTGAGAACGAAGTGGAGAAGACAGACACCCAGCAGGTGGACTGGA
ACTTTGCCAGTGCGAATTGCTCGAGAAGCAAGCATTGATCTAAAAGCTGAAATGAAGAAGCGTTTAGACAACCTGGAGGAACAGTAC
AAGCGGGAGAACTTCAGGCCGATCAGCAATTGAGGAGCAGCGAAAACGTACGAGGCTCGCATCGATGCTTTGCAAACGGGAGGAA
ACCCCCCCCCCTGCAGAGGGCACCCAGAAAACCTTAAGAAAAGGAATTTTCTCCTGAAAAAACACCCCATTTTAACGATATCTT
TAAGGGGGGGCCCGTGGGTCATCATCTT

parental V772L

AGGAGCCAGTGCCGTTCCGTTGAGTTAAGAAGAAGGTACATAGTTTACGCCTATTACTTAACATAATAGATTAGAGATCATATACTTAA
ATATTTATTTAGGTACAATTTCAATTTACTCTCTTGACCGACACCTTGACTCTCCTTTGCCGCCTGAGCTGGCATCCACTGTGGCTCCTTT
GCATCAGGAGGATGAGTTCGGAGCTCCACCTGTCTCTAAGACCTTGGTGGCCGTCGAAGTTACCGATACTAAGAACGGAGCCACTCACC
ACTGGTCTCTGGAGAAGTTACGGTAGGTTCTTTATATCCGAAATCCATGCGAATTCCTGCTACTCCCTCACATTCATTCTTCTCTGCACT
TTGGTTAAATTAATAAATAGCAGGCTTTTGATTTGAGTTGAATATTATTTAAATAATCCGTGCATGATGGTTGTAATAATGGATTCC
AATGTCCCTCAAACGCTCTCTCATTTGATGGGTACTTGATACTTTGGGTGTAACATGGGCCACATAAA

parental D1073E

AATCCAGATTTCAACCAACCAAAACATCGTGCTTAGCCAAAACCGTAGACGTGGGTGCACATGGTAGTGGTCCAAATTTGGGACTACGCA
CTGGCTGACTGATTGGTATGCTCGGTGGCAACATGCGACGTGGTGGTGGCCGGAAACAACTCCTGTTGGCATCCTTATGCAATGGG
TGCGTCTGGTAGTGCCCAATATCTTGAACATTATGGGTTGGGTTCTCAAACTCGATGAAGGATTTGGTTACGGGTACAGTTATCTAC
AGAAAAGATAACAGTTAATAATTGATATGGTGGAAAGCTCTGGTAATCTTGAATCTTCCACTTACGTTCTGAACATGGTAGAAGCCTA
GAGGAGCACCCGATGCCGAATTTGACGGGTTCCGGTGGAGAAAGCCTCCTCATGACGATGCAAAAAGCTGTAAGGTAACAGTTTATA
AACCACAAACCTAAAGTTAATTTCCGAAAGATTACGTAAGTGAAGTGGCAGAAAGATATCGGCATATTCAGCCCAATACCAGTGGCCTGT
AGCACAGTGACCCGAAAGTGAACCTCTGCCCACCTGCAGATGCTCGCCAGGCTCCTCCGAATTTTCGTGGCACTCGGATGCGGAGTTA
GAGTCAATGCCACGACCAGAGTCCACATCCTCAAGTTCTTTTACAATAATGAATATGAAA

parental V1170M

GTTCTCTGCACATCTCGCTGCTGCTCGATTTTTTTGTTCCCGGCCACCACCACGTCGCATGCACATAAAGGCTTCCCTGGTCGAGACGTTTCAT
CCATTGCCACCGGGCATAACCAATCAGTCAGCCAGTGCCTAGTCCCAAATTTGGACCACTACCATGTGCACCCACGCTACGGTTTTGGCTA
AGCACGATGTTTTGGTTTGGTTTGAATCTGTGAATTGGCTCCCAATGGAGAATATGTGCCATCGGTTAGTATGGCGCAGATGTAATCTT
TCCCAGTCTCACACGCAATAATCCAAACATAAATTTGTCAACAGGTGGTGGAGCACAGCGATGATCTTCCCTGCCGCGGACTGTTCTCTT
GCATCAGGGCATCCAGCGGCGCATTCTGTATTACTATCGTACATGAGCCACAACCGAGATGAAGTGAAGGACATCAATGAGTTGGTGG
TTGGACGTATCCGCAATACACCGGAGTCATCCGACGAACAGGACGAAGACGCTGTGTCTTATCTTTGGGCTTGTCCAGGGCAGGGCTT
TGGAGGTGCCCGGAGATGATAGATCTTTCTACCGTTTTGAGGCTGCCTGGGACTCGAGTCTGCACAACCTCGGCCACTGCTCAAGAAGGA
ACGAAATCTTGGTCTCGCACTGCACGCGGGAAAC

parental A1405V

ATGTACCAGCTCTACTTATGTGCGCGCGAGTCAGAATCTTCATGGCTGGAGGCCAAGGGGTGACTCCCTGATCTTCGATCACCAGTGG
GAGCTGGAGAACTCACCAGACTTGAAGAGTTGGACGCATGCGGCACCTTGCTTCTGCTGCGCGAACGTCTGGGCATGGACACCAACCC
GAATCCGACCACCAAGACCGAGAAGGATGTTTGAATCTAGCTGCTCGGCGAGTCACATCACCCGTACATATGGTCATTCCACAATCGCC
GCAGACTCCGGTCAAGGACCCACAGCAAATCATTCCAGAACGCGAGTACAACCAACGGGAGCAGGATCTCATGCTTAAATGCTTAAAT
TGGTGCAGGGTGAGTTAATACTGAGACTTACCAAGCGTTCATTCACTCTATTCTAAATTCATTTAAGGACGCTATACTAAGAGCGAGGC
CAACGATACGCAAACCTCAGTCGGATGTTTCGCCTAGCGATGAGGGATGTGCCGATATGACCGTCAGTGCATCTCCAGCAATTCATGGA
GTGAGTAGTCGTTTAGCCACCCGTATAAACACACCACCCACACCAGCACCACCCATCTTAGTTAGCTGGACTCCCCCTCCGCAAACCTTC
CTTAAATCCGGTTTTAGGGGCGAAAACCATCAAACCTGATTTGCGAACGTGGCTCCTCTTAGTAGGGCTTAA