

**File S2. Sequences of P1P2 fusion junctions.**

The PCR bands shown in Figure 3B were directly sequenced. Ac sequences are underlined.

>P1P2-1

NNNNNNNNNNNNNGATCGGGANNNTAACAAAATCGGTTATACGATAACGGTCGGTACGGGATTTTCCCATCCTACTTTTCATCCCTGGTC  
GGTCCGTAACGTGCACTACTAAACGCTAGTGACGTACGTACTCCGTCCGCTGCTATATTATGGCCGGCCGTGGCGTGCCCTCTAGCCA  
GCACAGCACACACTGAAAAGTGCAAGCTGTAGTGAGACCTGTGCGACTGCCAGCGTGTGTCGCGCGGTCGTCGGCCCGCACGGCCACC  
AACTCCCTTGACGCACGCGCGCACGCGACCAGCTGCTAGCCGTGCGCAAGTAGTGCGAGCTCGCCGCCGAGGGTCGCTAGCTCGATT  
GGAGGGACCAGCTGATACGACTCCGGTGTGGCGCGGATGGGGAGGGCGCCGTGCTGCGAGAAGGTGGGGCTCAAGCGAGGGAGGTGGA  
CGGCGGAGGAGGACCAGTTACTTGCCAACTACATTGCGGAGCACGGCGAGGGGTCTGGAGTCTGCTGCCAAGAATGCAGGTAACCAA  
GCCGCGCGCGCCATGCATCGCCACGTAGCATCAATCTCCGATCCATGCATATATGAGCTAGCTTCTTCTCGTCGCGCTGCTGTTCTTAGC  
TAGTTAGGACGCGCATGCAGGCCCTGCTCCGGTGCGGCAAGAGCTGCCGGCTCCGGTGGATCAACTACCTTCGGGGGGGAANNNN

> P1P2-2

NNNNNNNNNGGNTNNAATCGATCGGGANNNNNTAACNAAATCGGTTATACGATAACGGTCGGTACGGGATTTTCCNCTCCTACTTTCA  
TCCTGCTCCCTTGACGCACGCGCGCACGCGACCAGCTGCTAGCCGTGCGCAAGTAGTGCGAGCTCGCCGCCGGCCAGGGTCGCTAGCTCG  
ATTGGAGGGACCAGCTGATACGACTCCGGTGTGGCGCGGATGGGGAGGGCGCCGTGCTGCGAGAAGGTGGGGCTCAAGCGAGGGAGGT  
GGACGGCGGAGGAGGACCAGTTACTTGCCAACTACATTGCGGAGCACGGCGAGGGGTCTGGAGGTGCTGCCAAGAATGCAGGTAACC  
AAGCCGCGCGCGCCATGCATCGCCACGTAGCATCAATCTCCGATCCATGCATATATGAGCTAGCTTCTTCTCGTCGCGCTGCTGTTCT  
AGCTAGTTAGGACGCGCATGCAGGCTGCTCCGGTGCGGCAAGAGCTGCCGGTCCGGTGGATCAACTACCTCCGGCGGAGCTCAAGAGG  
GGGAACATCTCCAAGGAGGAAGAAGACATCATCAAGCTCAGCCACCCTCGGGAACAGGTAACAATAAGCGCGCCCTAATCTCAACGC  
TGATCGACTGTGCATCCGACTAGAGAGTAGNACTACTACTTCTTCTTATGCATGGGAGTCAATGCACGCAGTCCCGAAAACTTGGT  
ATACGNACTTCTCTTACACNANNNNNNGAAATCTAGCCCANCAATATCAACTTTGATCAAGACATTCATATAAAAAATACAACTACNAAC  
TTCGCATATATATGAAATATATTTATAANAAACTTCTAAATAANTAAATGNTGATAGTACTATCAATATNNTGATTGATAGTTTTCTA  
AATTGNGAGGNNATGTATACTTATNTATCTTACTTNAACGNTTCNNACGNANNNNTGNAGAAAAGGATTTCTGGCNAAGACTNNAAC  
NNNNGCAANTNNANNAAGGCTNCTCANNATGAAACTNTTTNTCTCNAANAANAANNNGNNGNNTAACAAATGCCNGGNTCTATTGCNNNT  
NCAATTACTGAAAACTTAAANCAANNNTAANAANGNATATAACNNGNCCAANTNTNGAATNN

> P1P2-3

NNNNNNNNNNNNNCGATCGGGNNANACTAACAAAATCGGTTATACGATAACGGTCGGTACGGGATTTTCCCATCCTACTTTTCATCCCTGG  
ATACGACTCCGGTGTGGCGCGGATGGGGAGGGCGCCGTGCTGCGAGAAGGTGGGGCTCAAGCGAGGGAGGTGGACGGCGGAGGAGGA  
CCAGTTACTTGCCAACTACATTGCGGAGCACGGCGAGGGGTCTGGAGGTGCTGCCAAGAATGCAGGTAACCAAAGCCGCGCGCGCC  
ATGCATCGCCACGTCATCAATCTCCGATCCATGCATATATGAGCTAGCTTCTTCTCGTCGCGCTGCTGTTCTTAGCTAGTTAGGACGCG  
CATGCAGGCTGCTCCGGTGCGGCAAGAGCTGCCGGCTCCGGTGGATCAACTACCTCCGGGCGGACGTCAAGAGGGGGAACATCTCCAAGG  
AGGAAGAANAACATCATCN

> P1P2-4

NNNGNNNNANCGATCGGGANAACTAACNNAATCGGTTATACNGATAACGGTCGGTACGGGATTTTCCCATCCTACTTTTCATCCCTGCATG  
CATCGCCACGTAGCATCAATCTCCGATCCATGCATATATGAGCTAGCTTCTTCTCGTCGCGCTGCTGTTCTTAGCTAGTTAGGACGCGCATG  
CAGGCTGCTCCGGTGCGGCAAGAGCTGCCGGCTCCGGTGGATCAACTACCTCCGGGCGGACGTCAAGAGGGGGAACATCTCCAAGGAGG  
AAGAAGACATCATN

> P1P2-6

NNNNNNNNNNNNNATCGNTCGGGNAACTAACAAAATCGGTTATACGATAACGGTCGGTACGGGATTTTCCNCTCCTACTTTTCATCCCT  
GGCTTGATGTGGATGCAAAATGCACCCTATAAAATACAATTTCTATAAATTCAGTTAAAATGTCCTATATATGCACTCCTACAAAAAGTTCTT  
ATGTACCCACAAGGCTAAATACACCCTCTCAATCTACACTAGCTCGCCACTGTGGTAATTGATGAGGTATAAAGCTAGTGGGGTGTGTTG  
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TTTGCCAATTTAAAGACTAACATAAAAATAAATAGGTGGGATAAAAAATTAATCCTCAGAAACCAAACTCTAAGTTGATCCGTCATATATA  
TAGTCGTTACATTACATCTAAGACGAGAAGCAGCAGCAGGAAATGCTCGATCTAGGCACCTTCTCGTGCTCAAAGATATGTGCAACTG  
AAGGAAGATTAGAAAGTTACTACTGAGCAGTACTGTGATAGCGTCATGCATGCATATATACACACAAACACCTTCCACTCCATAAAATGCA  
GTTTTTTTTGGTTACATCAGTTTTTTAACTTTTTNCCAAGCAACTTATGTGATTTTACTGAACTTGGATAAAAAATACTGGCCATAGT  
ATTTATAATAATAACCAAAAAACAANNNCNNGNNTTATTAACAACGGGTTTTTCAATTAATTAAGTATTTGGTTTGGCGTAAATTTA  
GGGGAACCAAAACGATCAATGAGTAGCGTATATACATAGCTATATCTTATCCTANTACAGTACAAAAAATCTTTTCAAAAAATATATAAN  
CAAGCACNCAAAAGCANGNNTTCGTCGANAGCATCANNNTACCAACNTGACNACNCTATTCNAGGACNANNANANGNANCTTCNTCGAN  
GNNNNNNNTTNTTTCNCCNNTNCNNNGATGANNNNGNNGNNTNNTNNGNNAANAANNANANGNNAANNNNNNNNNNN  
NNNNAANNAANNCNANNNNNNNNNNNNNNNNNNTNANNGNACNNNNNAANANNNNNNTNNGGNAGNNNNNNNNN  
NNNN

> P1P2-7

GATCGGGANAACTAACAAAATCGGTTATACGATAACGGTCGGTACGGGATTTTCCCATCCTACTTTTCATCCCTGTCGATCTAGGCATTTCTC  
GTGCTCAAAGATATGTGCAACTGAAGGAAGATTAGAAAGTTACTACTGAGCAGTACTGTGATAGCGTCATGCATATATACACACAA  
ACACCTTCCACTCCATAAAATGCAGTTTTTTTTTTGTTACATCAGTTTTTTTAACTTTTTTCCCAAGCAACTTATGTGATTTTACTGAACTTG

GATAAAAATATACTGGCCATAGTATTTATAATATAATACCCAAAAAACAATGTCATGGNTTTTATTAACAACGGGTTTTTCATTAATTAACACT  
GATTTGGTTTTGCCGTAATTTAGGGGAACCAAAACGATCAATGAGTAGCGTATATACATAGCTATATCTTATCTAGTACAGTACAAAAAATC  
TTTCAAAAAATATATAAAACAAGCACAAAAAGCATGCGATTCTGTCGACAGCATCGTCTCACCACATGACCACACTATTCAAGGACGATAGATG  
GAGCTTCTCGATGCTCAAACCTTTATTTCTACCATCTACCCAACTGATGATATGTACAGTAAATTAATTAATGCAAGGAANAACAAGATAGG  
GAAAAAAACCCCAAACCTGATAGATTANAAGTCGCTGAANAACCTCTAACAAAACCTGGCGAGCTATCAAACAGGACACGAGAGAGAATA  
AATAATTATAACAATAATCNCTCGTGAATGCANGCCACTGTAGCGCCGTAATGNNANANATTGNGCTATTNNNCCTACAACCCACATGGTG  
TTGCNAGAGCTAGCGGNGCCACACACTCATGNAACATGGTTTGTGAAAGCAGCTTAATTAATTAAGTGANAGTGANAGTGAANAGG  
ANCACNCNAATAAACGANNATCTGGNNCANACTCTNCNTCATTNAGCTAGCTAGCGCTGGNANCGAACTCCNTCCNNNGGNNAN  
NCTGNCTGCTGCCNNNNNNNANGNNCANNNTCCNNGNNNNNNNNNGNCNTTNNNTNGCTNCNNNNNCNNCNCNNNNNGNNCN  
GNGCAAGNNNGCATNNNTANNNNNNNNNNNNNNNATCTANNNNNNNNGNCNNNNNNNGANNNNNNNNNGNNNNNNNNNNNNAN  
NTNCCGCNNNNNNNNNNNNNTGNNNNNNNN

> P1P2-8

NNNNNTNNNCGTTTCGTTTCGTTTTCGTTTTTACCTCGGGTTCGAAATCGATCGGGATAAAAACAACTAACAAAATCGGTTATACGATAACGGTCG  
GTACGGGATTTCCATCCTACTTTTCATCCCTGTATACATAGCTATATCTTATCTAGTACAGTACAAAAAATCTTTCAAAAAATATATAACAA  
GCACAAAAAGCATGCGATTCTGTCGACAGCATCGTCTCACCACATGACCACACTATTCAAGGACGATAGATGGAGCTTCTTCGATGCTCAGAC  
TTTATTCTACCATCTACCCAACTGATGATATGTACAGTAAATTAATTAATGCAAGGAAGAACAAGATAGGGAAAAAAACCCCAAACCTGAT  
AGATTAGAAGTCGCTGAAGAAATCCTCTAACAAAACCTGGCGAGCTATCAAACAGGACACGAGAGAGAATAAATAATTATACAATAATCCCTC  
GTGAATGCATGCCACTGTAGCGCCGTAATGATAGATATTGCGCTATTGCCCTACAACCCACATGGTGTTGCGAGAGCTAGCGGTGCCACAC  
ACTCATGGAAACATGGTTTGTGAAAGCAGCTTAATTAATTAAC46TAGCTGACAGTGAGAGTGAGAGGACCACGCGAAATAAACGACAATCTG  
GTCCAACACTCCCTTTCATTCAAGCTAGCTAGCGCTGGGAGCGAACTCGCGTCGATGGCAGAGCCTGCCTGCTGCCGAGCGGACAGGTT  
ACGGGNNNA

> P1P2-9

NTNNGGNNNNNNNNNGATCGGGANAACAACTAACAAAATCGGTTATACGATAACGGTCGGTACGGGATTTCCATCCTACTTTTCATCCCTGA  
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TAGAAGTCGCTGAAGAAATCCTCTAACAAAACCTGGCGAGCTATCAAACAGGACACGAGAGAGAATAAATAATTATACAATAATCCCTCGTGC  
AATGCATGCCACTGTAGCGCCGTAATGATAGATATTGCGCTATTGCCCTACAACCCACATGGTGTTGCGAGAGCTAGCGGTGCCACACTC  
ATGGAAACATGGTTTGTGAAAGCAGCTTAATTAATTAAGTACTAGCTGACAGTGAGAGTGAGAGGACCACGCGAAATAAACGACAATCTGGTCCAA  
CACTCCCTCTTATTCAAGCTAGCTAGCGCTGGGAGCGAACTCGCGTCGCATGGCAGAGCCTGCCTGCTGCCGAGCGGACAGGTCACGGTCC  
ATGTCCGTGGCGTTGGCGTCAGGTCCATTTTCGCTTTCGCTGCCTGCCATCACCGCCGCGCGTACTGTGCAAAGCGCGCATTGGCTAGCTTCC  
CTGTTGCCTTGATCTGATCATAGAGGGTCCATGTCCGTGGCACACAGTGGGATTAATGACGGGCCACGCGGCCCTCCCTAATGATTTCC  
CCGCTTAACGTTGACACTCGCGACGGTGAGAGGCGCGCTGTGGACGTACGGCGAGATCTATCGGGGGCCCATGTCTTCGCGAACGAT  
GCGTACCTTAGCGCCATATAAACACACGCGCGCATGATTACTACGGCCTATACGTCTGAGCGGCGCATCAATGAGTGAGCTAGTATT  
GTTGCACCAAATTGCNATCAAGTTGCATCAGACAGTANAGTACTGTACTCTCTATATATATATGTTATATGTAAGTACTAGGAGGCTAANNA  
AACACGATANANACNNNNNTTCNGNTNNTCATTACNAAGCTGCAGCTGCCANCCAGCAGCGATGATCACGTACNCTNNCNNNNNNNN  
NNNNCNNNNNNNN

> P1P2-10

NNNNNNNNANCGATCGGGNNANNTAACNNNTCGGTTATACGATAACGGTCGGTACGGGATTTCCATCCTACTTTTCATCCCTGAGTGAGA  
GGACCACGCAGAAATNNNCGACAATCTGGTCCAACACTCCCTTTCATTCAAGCTAGCTAGCGCTGGGAGCGAACTCGCGTCGCANGGCGAG  
AGCCTGCCTGCTGCCGAGCGGACAGGTACCGTCCATGTCCGTGGCGTGGCGTACGGTCCATTTTCGCTTTCGCTGCCTCGCCATCACCGCCGG  
CCGGTACTGTGCAAAGCGCGCATTGNCTAGCTTCCCTGTTGCCTTGATCTGATCATAGAGGGTCCATGTCCGTGGCACACAGTGGGATTAAT  
GACGGGCCACGCGGCCCTCCCTAATGATTTCCCCGCTTAACTGTTGACACTGCGGACGGTGAGAGGCGCGGCTGTGGACGTACGGCGA  
GATCTATCGGGGGCCCATGTCTTCGCGAACGATGCGTACATTTAGCGCCATATAAACACACGCGCGCATGANTTACTACNNGCCAT  
ACGTCTGAGCGGCGGATCAANNAGTGAGCTAGTTTGTGCACCAAATTGTCGATCAANTTGCATCAGACAGTACTGACTGTACTCT  
CTCTATATATATGTTATATGTAAGTACTAGGAGGCTAAGAAACACGATAGATACCACGCNTNCGGTTCTCATNANNANNTGCAGCTGCCAAC  
CAGCAGCATGATCACGTACGCTCNCNTCANNNGNNNNNNNNANN

> P1P2-12

GGGANANNTAACAAAATCGGTTATACGATAACGGTCGGTACGGGATTTCCATCCTACTTTTCATCCCTGTTGGCGTTGGCGTCAGGTCCATT  
TCGCTTTCGCTGCCTCGCCATCACCGCCGCGCGTACTGTGCAAAGCGCGCATTGGCTAGCTTCCCTGTTGCCTTGATCTGATCATAGAGGGT  
CCATGTCCGTGGCACACAGTGGGATTAATGACGGGCCACGCGGCCCTCCCTAATGATTTCCCCGCTTAACTGTTGACACTGCGGACGGTG  
AGAGGCGCGGCTGTGGACGTACGGCGAGATCTATCGGGGGCCCATGTCTTCGCGAACGATGCGTACATTTAGCGCCATATAAACACAC  
GCCGCGACATGATTACTACGGCCTATACGTCTGAGCGGCGGATCAATGAGTGAGCTAGTTTGTGCACCAAATTGTCGATCAAGTTGCATC  
AGACAGTAGAGTACTGTACTCTCTATATATATATGTTATATGTAAGTACTAGGAGGCTAAGAAACACGATAGATACCACGCATTTCGTTCTCA  
TTACGAAGCTGCAGCTGCCAACAGCAGCGATGATCACGTACGCTCACCATCANNNGCGTCTTGA

> P1P2-14

NNNNNNNNNNANCGATCGGGNNAACAACTAACAAAATCGGTTATACGATAACGGTCGGTACGGGATTTCCATCCTACTTTTCATCCCTGAT  
CATAGAGGGTCCATGTCCGTGGCACACAGTGGGATTAATGACGGGCCACGCGGCCCTCCCTAATGATTTCCCCGCTTAACTGTTGACAC  
TGCGGACGGTGAGAGGCGCGGCTGTGGACGTACGGCGAGATCTATCGGGGGCCCATGTCTTCGCGAACGATGCGTACATTTAGCGCCAT  
ATATAACACACGCGCGCATGATTACTACGGCCTATACGTCTGAGCGGCGGATCAATGAGTGAGCTAGTTTGTGCACCAAATTGTCG

ATCAAGTTGCATCAGACAGTAGAGTACTGTATACTCTCTATATATATATGTTATATGTA  
CTAGGCAGGCTAAGAAACACGATAGATACCAC  
GCATTCGGTTCATTACGAAGCTGCAGCTGCCCAACCAGCAGCGATGATCACGTACGCTC  
ACCATCCNNNGTCCNNN