

**BIP1:**

BIP1_RirG196040	1	DNA1	ATGAAGAAAGCTACTTTCTTTAAATTTATTGCAGTGTTATGTTCACTGTT
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			ATGAAGAAAGCTACTTTCTTTAAATTTATTGCAGTGTTATGTTCACTGTT
BIP1_RirG196040	0	DNA2	ATGAAGAAAGCTACTTTCTTTAAATTTATTGCAGTGTTATGTTCACTGTT
BIP1_RirG196040	2	N6	ATGAAGAAAGCTACTTTCTTTAAATTTATTGCAGTGTTATGTTCACTGTT
BIP1_RirG196040	1	DNA1	AATAACTATTCCTAATGTAATAGTAATTTCTGATGAGAAACCTAACGTTG
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			AATAACTATTCCTAATGTAATAGTAATTTCTGATGAGAAACCTAACGTTG
BIP1_RirG196040	0	DNA2	AATAACTATTCCTAATGTAATAGTAATTTCTGATGAGAAACCTAACGTTG
BIP1_RirG196040	2	N6	AATAACTATTCCTAATGTAATAGTAATTTCTGATGAGAAACCTAACGTTG
BIP1_RirG196040	1	DNA1	GAACAGGTATAAAAAATTAATTGCTAAATATTGTTCTTTTCGAAACTCATAA
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			GAACAGGTATAAAAAATTAATTGCTAAATATTGTTCTTTTCGAAACTCATAA
BIP1_RirG196040	0	DNA2	GAACAGGTATAAAAAATTAATTGCTAAATATTGTTCTTTTCGAAACTCATAA
BIP1_RirG196040	2	N6	GAACAGGTATAAAAAATTAATTGCTAAATATTGTTCTTTTCGAAACTCATAA
BIP1_RirG196040	1	DNA1	ATTTTAATATTATATTTTCATGTATCGTCAGTTATCGGTATAGATTTAGGA
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			ATTTTAATATTATATTTTCATGTATCGTCAGTTATCGGTATAGATTTAGGA
BIP1_RirG196040	0	DNA2	ATTTTAATATTATATTTTCATGTATCGTCAGTTATCGGTATAGATTTAGGA
BIP1_RirG196040	2	N6	ATTTTAATATTATATTTTCATGTATCGTCAGTTATCGGTATAGATTTAGGA
BIP1_RirG196040	1	DNA1	ACAACCTTATCTTGTTGGAGTATACGTAACGGAAGAGTTGAGATATT
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			ACAACCTTATCTTGTTGGAGTATACGTAACGGAAGAGTTGAGATATT
BIP1_RirG196040	0	DNA2	ACAACCTTATCTTGTTGGAGTATACGTAACGGAAGAGTTGAGATATT
BIP1_RirG196040	2	N6	ACAACCTTATCTTGTTGGAGTATACGTAACGGAAGAGTTGAGATATT
BIP1_RirG196040	1	DNA1	AACCAATGACCAGGTAACCGTATCACGCCCTTCTTATGTTGCCTTCACTG
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			AACCAATGACCAGGTAACCGTATCACGCCCTTCTTATGTTGCCTTCACTG
BIP1_RirG196040	0	DNA2	AACCAATGACCAGGTAACCGTATCACGCCCTTCTTATGTTGCCTTCACTG
BIP1_RirG196040	2	N6	AACCAATGACCAGGTAACCGTATCACGCCCTTCTTATGTTGCCTTCACTG
BIP1_RirG196040	1	DNA1	ATGATGAACGTTTAAATTTGGTGATGCGGCAAAGAATCAATATTCAAATAAC
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			ATGATGAACGTTTAAATTTGGTGATGCGGCAAAGAATCAATATTCAAATAAC
BIP1_RirG196040	0	DNA2	ATGATGAACGTTTAAATTTGGTGATGCGGCAAAGAATCAATATTCAAATAAC
BIP1_RirG196040	2	N6	ATGATGAACGTTTAAATTTGGTGATGCGGCAAAGAATCAATATTCAAATAAC
BIP1_RirG196040	1	DNA1	CCCCAGAACACCATTTTTGATTCTAAGCGACTAATTGGTCGTCGTTTTAG
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			CCCCAGAACACCATTTTTGATTCTAAGCGACTAATTGGTCGTCGTTTTAG
BIP1_RirG196040	0	DNA2	CCCCAGAACACCATTTTTGATTCTAAGCGACTAATTGGTCGTCGTTTTAG
BIP1_RirG196040	2	N6	CCCCAGAACACCATTTTTGATTCTAAGCGACTAATTGGTCGTCGTTTTAG
BIP1_RirG196040	1	DNA1	CGATAAAGAAGTTCAACAAGATATTAAGCACTTTCCATTCAAGGTCATTG
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			CGATAAAGAAGTTCAACAAGATATTAAGCACTTTCCATTCAAGGTCATTG
BIP1_RirG196040	0	DNA2	CGATAAAGAAGTTCAACAAGATATTAAGCACTTTCCATTCAAGGTCATTG
BIP1_RirG196040	2	N6	CGATAAAGAAGTTCAACAAGATATTAAGCACTTTCCATTCAAGGTCATTG
BIP1_RirG196040	1	DNA1	ACAAAGATGGTAAACCTGTTATTCAAGTTACTGTAAAAGGTGAAGAAAGA
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			ACAAAGATGGTAAACCTGTTATTCAAGTTACTGTAAAAGGTGAAGAAAGA
BIP1_RirG196040	0	DNA2	ACAAAGATGGTAAACCTGTTATTCAAGTTACTGTAAAAGGTGAAGAAAGA
BIP1_RirG196040	2	N6	ACAAAGATGGTAAACCTGTTATTCAAGTTACTGTAAAAGGTGAAGAAAGA
BIP1_RirG196040	1	DNA1	ATATTTACTCCTGAAGAAATTTCCGGCTATGATTCTTGGTAAAAATGAAAGA
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			ATATTTACTCCTGAAGAAATTTCCGGCTATGATTCTTGGTAAAAATGAAAGA
BIP1_RirG196040	0	DNA2	ATATTTACTCCTGAAGAAATTTCCGGCTATGATTCTTGGTAAAAATGAAAGA
BIP1_RirG196040	2	N6	ATATTTACTCCTGAAGAAATTTCCGGCTATGATTCTTGGTAAAAATGAAAGA
BIP1_RirG196040	1	DNA1	AATTGCCGAATCATATTTAGGCAAGAATGTTACACATGCAGTAGTTACAG
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			AATTGCCGAATCATATTTAGGCAAGAATGTTACACATGCAGTAGTTACAG
BIP1_RirG196040	0	DNA2	AATTGCCGAATCATATTTAGGCAAGAATGTTACACATGCAGTAGTTACAG
BIP1_RirG196040	2	N6	AATTGCCGAATCATATTTAGGCAAGAATGTTACACATGCAGTAGTTACAG
BIP1_RirG196040	1	DNA1	TCCCAGCTTACTTTAATGACGCTCAAAGACAAGCCACAAAAGATGCTGGC
BIP1_RirG196040	3	N33	-----
RiBIP1_RirG196040			TCCCAGCTTACTTTAATGACGCTCAAAGACAAGCCACAAAAGATGCTGGC

BIPl\_RirG196040 | 0 | DNA2 TCCCAGCTTACTTTAATGACGCTCAAAGACAAGCCACAAAAGATGTGCGC  
BIPl\_RirG196040 | 2 | N6 TCCCAGCTTACTTTAATGACGCTCAAAGACAAGCCACAAAAGATGTGCGC  
\*\*\*\*\*

BIPl\_RirG196040 | 1 | DNA1 GTAATTGCTGGACTTAATGTCTCCGTATTGTAAATGAACCTACGGCGGC  
BIPl\_RirG196040 | 3 | N33 GTAATTGCTGGACTTAATGTCTCCGTATTGTAAATGAACCTACGGCGGC  
RiBIPl\_RirG196040 GTAATTGCTGGACTTAATGTCTCCGTATTGTAAATGAACCTACGGCGGC  
BIPl\_RirG196040 | 0 | DNA2 GTAATTGCTGGACTTAATGTCTCCGTATTGTAAATGAACCTACGGCGGC  
BIPl\_RirG196040 | 2 | N6 GTAATTGCTGGACTTAATGTCTCCGTATTGTAAATGAACCTACGGCGGC  
\*\*\*\*\*

BIPl\_RirG196040 | 1 | DNA1 TGCAATTGCATATGATCTTGATAAATCCGAGGGGAACGTGAGATTCTTG  
BIPl\_RirG196040 | 3 | N33 TGCAATTGCATATGATCTTGATAAATCCGAGGGGAACGTGAGATTCTTG  
RiBIPl\_RirG196040 TGCAATTGCATATGATCTTGATAAATCCGAGGGGAACGTGAGATTCTTG  
BIPl\_RirG196040 | 0 | DNA2 TGCAATTGCATATGATCTTGATAAATCCGAGGGGAACGTGAGATTCTTG  
BIPl\_RirG196040 | 2 | N6 TGCAATTGCATATGATCTTGATAAATCCGAGGGGAACGTGAGATTCTTG  
\*\*\*\*\*

BIPl\_RirG196040 | 1 | DNA1 TCTATGATCTTGGTGGGGTACTTTTGATGTGTCTCTCTTGTGTCAGTCGAA  
BIPl\_RirG196040 | 3 | N33 TCTATGATCTTGGTGGGGTACTTTTGATGTGTCTCTCTTGTGTCAGTCGAA  
RiBIPl\_RirG196040 TCTATGATCTTGGTGGGGTACTTTTGATGTGTCTCTCTTGTGTCAGTCGAA  
BIPl\_RirG196040 | 0 | DNA2 TCTATGATCTTGGTGGGGTACTTTTGATGTGTCTCTCTTGTGTCAGTCGAA  
BIPl\_RirG196040 | 2 | N6 TCTATGATCTTGGTGGGGTACTTTTGATGTGTCTCTCTTGTGTCAGTCGAA  
\*\*\*\*\*

BIPl\_RirG196040 | 1 | DNA1 GATGATGTTTTTGAGGTATTGGCAACTGCCGGCGATACACATTTGGGAGG  
BIPl\_RirG196040 | 3 | N33 GATGATGTTTTTGAGGTATTGGCAACTGCCGGCGATACACATTTGGGAGG  
RiBIPl\_RirG196040 GATGATGTTTTTGAGGTATTGGCAACTGCCGGCGATACACATTTGGGAGG  
BIPl\_RirG196040 | 0 | DNA2 GATGATGTTTTTGAGGTATTGGCAACTGCCGGCGATACACATTTGGGAGG  
BIPl\_RirG196040 | 2 | N6 GATGATGTTTTTGAGGTATTGGCAACTGCCGGCGATACACATTTGGGAGG  
\*\*\*\*\*

BIPl\_RirG196040 | 1 | DNA1 CGAAGACTTCGACAACCGAGTTATTGACCACTTCGTTAAACTTTATAAAA  
BIPl\_RirG196040 | 3 | N33 CGAAGACTTCGACAACCGAGTTATTGACCACTTCGTTAAACTTTATAAAA  
RiBIPl\_RirG196040 CGAAGACTTCGACAACCGAGTTATTGACCACTTCGTTAAACTTTATAAAA  
BIPl\_RirG196040 | 0 | DNA2 CGAAGACTTCGACAACCGAGTTATTGACCACTTCGTTAAACTTTATAAAA  
BIPl\_RirG196040 | 2 | N6 CGAAGACTTCGACAACCGAGTTATTGACCACTTCGTTAAACTTTATAAAA  
\*\*\*\*\*

BIPl\_RirG196040 | 1 | DNA1 AGAAAAATAAAATAGATGTTACACAAGATCTAAAAGCTATGGGTAAATTA  
BIPl\_RirG196040 | 3 | N33 AGAAAAATAAAATAGATGTTACACAAGATCTAAAAGCTATGGGTAAATTA  
RiBIPl\_RirG196040 AGAAAAATAAAATAGATGTTACACAAGATCTAAAAGCTATGGGTAAATTA  
BIPl\_RirG196040 | 0 | DNA2 AGAAAAATAAAATAGATGTTACACAAGATCTAAAAGCTATGGGTAAATTA  
BIPl\_RirG196040 | 2 | N6 AGAAAAATAAAATAGATGTTACACAAGATCTAAAAGCTATGGGTAAATTA  
\*\*\*\*\*

BIPl\_RirG196040 | 1 | DNA1 AAGCGTGAAGTTGAAAAGGTCAAGCGTACATTATCTTCTCAAATGTCAAC  
BIPl\_RirG196040 | 3 | N33 AAGCGTGAAGTTGAAAAGGTCAAGCGTACATTATCTTCTCAAATGTCAAC  
RiBIPl\_RirG196040 AAGCGTGAAGTTGAAAAGGTCAAGCGTACATTATCTTCTCAAATGTCAAC  
BIPl\_RirG196040 | 0 | DNA2 AAGCGTGAAGTTGAAAAGGTCAAGCGTACATTATCTTCTCAAATGTCAAC  
BIPl\_RirG196040 | 2 | N6 AAGCGTGAAGTTGAAAAGGTCAAGCGTACATTATCTTCTCAAATGTCAAC  
\*\*\*\*\*

BIPl\_RirG196040 | 1 | DNA1 TCGTGTGCGAAATTGAATCATTTTATGATGGTAAAGATTTTTCCGAAACTT  
BIPl\_RirG196040 | 3 | N33 TCGTGTGCGAAATTGAATCATTTTATGATGGTAAAGATTTTTCCGAAACTT  
RiBIPl\_RirG196040 TCGTGTGCGAAATTGAATCATTTTATGATGGTAAAGATTTTTCCGAAACTT  
BIPl\_RirG196040 | 0 | DNA2 TCGTGTGCGAAATTGAATCATTTTATGATGGTAAAGATTTTTCCGAAACTT  
BIPl\_RirG196040 | 2 | N6 TCGTGTGCGAAATTGAATCATTTTATGATGGTAAAGATTTTTCCGAAACTT  
\*\*\*\*\*

BIPl\_RirG196040 | 1 | DNA1 TGACCCGAGCCAAATTTGAAGAGCTTAATAATGATCTCTCCGTAAAAACA  
BIPl\_RirG196040 | 3 | N33 TGACCCGAGCCAAATTTGAAGAGCTTAATAATGATCTCTCCGTAAAAACA  
RiBIPl\_RirG196040 TGACCCGAGCCAAATTTGAAGAGCTTAATAATGATCTCTCCGTAAAAACA  
BIPl\_RirG196040 | 0 | DNA2 TGACCCGAGCCAAATTTGAAGAGCTTAATAATGATCTCTCCGTAAAAACA  
BIPl\_RirG196040 | 2 | N6 TGACCCGAGCCAAATTTGAAGAGCTTAATAATGATCTCTCCGTAAAAACA  
\*\*\*\*\*

BIPl\_RirG196040 | 1 | DNA1 TTAAAGCCCCTTGAACAAGTGTGAAAGATGCAAAATATTGATAAGAAGGA  
BIPl\_RirG196040 | 3 | N33 TTAAAGCCCCTTGAACAAGTGTGAAAGATGCAAAATATTGATAAGAAGGA  
RiBIPl\_RirG196040 TTAAAGCCCCTTGAACAAGTGTGAAAGATGCAAAATATTGATAAGAAGGA  
BIPl\_RirG196040 | 0 | DNA2 TTAAAGCCCCTTGAACAAGTGTGAAAGATGCAAAATATTGATAAGAAGGA  
BIPl\_RirG196040 | 2 | N6 TTAAAGCCCCTTGAACAAGTGTGAAAGATGCAAAATATTGATAAGAAGGA  
\*\*\*\*\*

BIPl\_RirG196040 | 1 | DNA1 TGTACACGATATTGTACTCATTGGTGGTTCCACACGTATTCCTCAAAGTTC  
BIPl\_RirG196040 | 3 | N33 TGTACACGATATTGTACTCATTGGTGGTTCCACACGTATTCCTCAAAGTTC

RiBIP1_RirG196040		TGTACACGATATTGTACTCATTTGGTGGTTCCACACGTATTCCTCCAAAGTTC
BIP1_RirG196040	0   DNA2	TGTACACGATATTGTACTCATTTGGTGGTTCCACACGTATTCCTCCAAAGTTC
BIP1_RirG196040	2   N6	TGTACACGATATTGTACTCATTTGGTGGTTCCACACGTATTCCTCCAAAGTTC
		*****
BIP1_RirG196040	1   DNA1	AACAACACTTGAAGAATCTTTAATGGCAAGAAAGCTTCCAAAAATATT
BIP1_RirG196040	3   N33	AACAACACTTGAAGAATCTTTAATGGCAAGAAAGCTTCCAAAAATATT
RiBIP1_RirG196040		AACAACACTTGAAGAATCTTTAATGGCAAGAAAGCTTCCAAAAATATT
BIP1_RirG196040	0   DNA2	AACAACACTTGAAGAATCTTTAATGGCAAGAAAGCTTCCAAAAATATT
BIP1_RirG196040	2   N6	AACAACACTTGAAGAATCTTTAATGGCAAGAAAGCTTCCAAAAATATT
		*****
BIP1_RirG196040	1   DNA1	AATCCTGATGAAGCGGTTGCGCATGGTGCCGCCATACAAGGAGGTATACT
BIP1_RirG196040	3   N33	AATCCTGATGAAGCGGTTGCGCATGGTGCCGCCATACAAGGAGGTATACT
RiBIP1_RirG196040		AATCCTGATGAAGCGGTTGCGCATGGTGCCGCCATACAAGGAGGTATACT
BIP1_RirG196040	0   DNA2	AATCCTGATGAAGCGGTTGCGCATGGTGCCGCCATACAAGGAGGTATACT
BIP1_RirG196040	2   N6	AATCCTGATGAAGCGGTTGCGCATGGTGCCGCCATACAAGGAGGTATACT
		*****
BIP1_RirG196040	1   DNA1	TTCCGGAACGCGAAAAAAAACCTTTAATAGACGTTTGTCTCTTACAC
BIP1_RirG196040	3   N33	TTCCGGAACGCGAAAAAAAACCTTTAATAGACGTTTGTCTCTTACAC
RiBIP1_RirG196040		TTCCGGAACGCGAAAAAAAACCTTTAATAGACGTTTGTCTCTTACAC
BIP1_RirG196040	0   DNA2	TTCCGGAACGCGAAAAAAAACCTTTAATAGACGTTTGTCTCTTACAC
BIP1_RirG196040	2   N6	TTCCGGAACGCGAAAAAAAACCTTTAATAGACGTTTGTCTCTTACAC
		*****
BIP1_RirG196040	1   DNA1	TCGGTATTGAAACAACCTGGTGGCGTTATGACAAAAATTAATCTCTGTAAC
BIP1_RirG196040	3   N33	TCGGTATTGAAACAACCTGGTGGCGTTATGACAAAAATTAATCTCTGTAAC
RiBIP1_RirG196040		TCGGTATTGAAACAACCTGGTGGCGTTATGACAAAAATTAATCTCTGTAAC
BIP1_RirG196040	0   DNA2	TCGGTATTGAAACAACCTGGTGGCGTTATGACAAAAATTAATCTCTGTAAC
BIP1_RirG196040	2   N6	TCGGTATTGAAACAACCTGGTGGCGTTATGACAAAAATTAATCTCTGTAAC
		*****
BIP1_RirG196040	1   DNA1	ACTGTAATCCCTACTAAGAAGTCACAAATCTTCTCTACCGCCGCGGATAA
BIP1_RirG196040	3   N33	ACTGTAATCCCTACTAAGAAGTCACAAATCTTCTCTACCGCCGCGGATAA
RiBIP1_RirG196040		ACTGTAATCCCTACTAAGAAGTCACAAATCTTCTCTACCGCCGCGGATAA
BIP1_RirG196040	0   DNA2	ACTGTAATCCCTACTAAGAAGTCACAAATCTTCTCTACCGCCGCGGATAA
BIP1_RirG196040	2   N6	ACTGTAATCCCTACTAAGAAGTCACAAATCTTCTCTACCGCCGCGGATAA
		*****
BIP1_RirG196040	1   DNA1	CCAACCTACTGTATTAATTCAAGTTTACGAAGGAGAACGTTTTATGACTA
BIP1_RirG196040	3   N33	CCAACCTACTGTATTAATTCAAGTTTACGAAGGAGAACGTTTTATGACTA
RiBIP1_RirG196040		CCAACCTACTGTATTAATTCAAGTTTACGAAGGAGAACGTTTTATGACTA
BIP1_RirG196040	0   DNA2	CCAACCTACTGTATTAATTCAAGTTTACGAAGGAGAACGTTTTATGACTA
BIP1_RirG196040	2   N6	CCAACCTACTGTATTAATTCAAGTTTACGAAGGAGAACGTTTTATGACTA
		*****
BIP1_RirG196040	1   DNA1	AAGAAAACAACCTTGCTCGGCAAGTTCGAATTAACAGGTATACCGCCTGCA
BIP1_RirG196040	3   N33	AAGAAAACAACCTTGCTCGGCAAGTTCGAATTAACAGGTATACCGCCTGCA
RiBIP1_RirG196040		AAGAAAACAACCTTGCTCGGCAAGTTCGAATTAACAGGTATACCGCCTGCA
BIP1_RirG196040	0   DNA2	AAGAAAACAACCTTGCTCGGCAAGTTCGAATTAACAGGTATACCGCCTGCA
BIP1_RirG196040	2   N6	AAGAAAACAACCTTGCTCGGCAAGTTCGAATTAACAGGTATACCGCCTGCA
		*****
BIP1_RirG196040	1   DNA1	CCACGAGGTATACCACAGATCGAGGTTACATTTGAAATTGATACCAATGG
BIP1_RirG196040	3   N33	CCACGAGGTATACCACAGATCGAGGTTACATTTGAAATTGATACCAATGG
RiBIP1_RirG196040		CCACGAGGTATACCACAGATCGAGGTTACATTTGAAATTGATACCAATGG
BIP1_RirG196040	0   DNA2	CCACGAGGTATACCACAGATCGAGGTTACATTTGAAATTGATACCAATGG
BIP1_RirG196040	2   N6	CCACGAGGTATACCACAGATCGAGGTTACATTTGAAATTGATACCAATGG
		*****
BIP1_RirG196040	1   DNA1	TATAGTGAAAGTATCTGCAGCAGATAAAAAGTACAGGGAAAACCTGAATCGA
BIP1_RirG196040	3   N33	TATAGTGAAAGTATCTGCAGCAGATAAAAAGTACAGGGAAAACCTGAATCGA
RiBIP1_RirG196040		TATAGTGAAAGTATCTGCAGCAGATAAAAAGTACAGGGAAAACCTGAATCGA
BIP1_RirG196040	0   DNA2	TATAGTGAAAGTATCTGCAGCAGATAAAAAGTACAGGGAAAACCTGAATCGA
BIP1_RirG196040	2   N6	TATAGTGAAAGTATCTGCAGCAGATAAAAAGTACAGGGAAAACCTGAATCGA
		*****
BIP1_RirG196040	1   DNA1	TCACAATCATAAACGATAAAGGTCGTCTTTCTCAAGAAGAAATTAATCGT
BIP1_RirG196040	3   N33	TCACAATCATAAACGATAAAGGTCGTCTTTCTCAAGAAGAAATTAATCGT
RiBIP1_RirG196040		TCACAATCATAAACGATAAAGGTCGTCTTTCTCAAGAAGAAATTAATCGT
BIP1_RirG196040	0   DNA2	TCACAATCATAAACGATAAAGGTCGTCTTTCTCAAGAAGAAATTAATCGT
BIP1_RirG196040	2   N6	TCACAATCATAAACGATAAAGGTCGTCTTTCTCAAGAAGAAATTAATCGT
		*****

BIP1\_RirG196040 | 1 | DNA1 ATGGTTGAAGAAGCCGAACAATTTGCTGAAGAGGATAAGATTCAAAGGA  
BIP1\_RirG196040 | 3 | N33 ATGGTTGAAGAAGCCGAACAATTTGCTGAAGAGGATAAGATTCAAAGGA  
RiBIP1\_RirG196040 ATGGTTGAAGAAGCCGAACAATTTGCTGAAGAGGATAAGATTCAAAGGA  
BIP1\_RirG196040 | 0 | DNA2 ATGGTTGAAGAAGCCGAACAATTTGCTGAAGAGGATAAGATTCAAAGGA  
BIP1\_RirG196040 | 2 | N6 ATGGTTGAAGAAGCCGAACAATTTGCTGAAGAGGATAAGATTCAAAGGA  
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BIP1\_RirG196040 | 1 | DNA1 ACGCATAGAAGCTAAACATCAACTTGAAAATTTTGCATACACAATCAAAA  
BIP1\_RirG196040 | 3 | N33 ACGCATAGAAGCTAAACATCAACTTGAAAATTTTGCATACACAATCAAAA  
RiBIP1\_RirG196040 ACGCATAGAAGCTAAACATCAACTTGAAAATTTTGCATACACAATCAAAA  
BIP1\_RirG196040 | 0 | DNA2 ACGCATAGAAGCTAAACATCAACTTGAAAATTTTGCATACACAATCAAAA  
BIP1\_RirG196040 | 2 | N6 ACGCATAGAAGCTAAACATCAACTTGAAAATTTTGCATACACAATCAAAA  
\*\*\*\*\*

BIP1\_RirG196040 | 1 | DNA1 GTCAAATTTTGTGATGACAGAGGACTTGGTAAGAAAATAAGCGATGACGAC  
BIP1\_RirG196040 | 3 | N33 GTCAAATTTTGTGATGACAGAGGACTTGGTAAGAAAATAAGCGATGACGAC  
RiBIP1\_RirG196040 GTCAAATTTTGTGATGACAGAGGACTTGGTAAGAAAATAAGCGATGACGAC  
BIP1\_RirG196040 | 0 | DNA2 GTCAAATTTTGTGATGACAGAGGACTTGGTAAGAAAATAAGCGATGACGAC  
BIP1\_RirG196040 | 2 | N6 GTCAAATTTTGTGATGACAGAGGACTTGGTAAGAAAATAAGCGATGACGAC  
\*\*\*\*\*

BIP1\_RirG196040 | 1 | DNA1 AGGAAAATTATTAAGATTCAATTAAGACGGTTGAAGATTGGTTGAATGA  
BIP1\_RirG196040 | 3 | N33 AGGAAAATTATTAAGATTCAATTAAGAC-----  
RiBIP1\_RirG196040 AGGAAAATTATTAAGATTCAATTAAGACGGTTGAAGATTGGTTGAATGA  
BIP1\_RirG196040 | 0 | DNA2 AGGAAAATTATTAAGATTCAATTAAGACGGTTGAAGATTGGTTGAATGA  
BIP1\_RirG196040 | 2 | N6 AGGAAAATTATTAAGATTCAATTAAGACGGTTGAAGATTGGTTGAATGA  
\*\*\*\*\*

BIP1\_RirG196040 | 1 | DNA1 TCATTCAAATTTCTGCGATCAAGGAAGATTTTGTGAAAAACGGGAAGAAT  
BIP1\_RirG196040 | 3 | N33 TCATTCAAATTTCTGCGATCAAGGAAGATTTTGTGAAAAACGGGAAGAAT  
RiBIP1\_RirG196040 TCATTCAAATTTCTGCGATCAAGGAAGATTTTGTGAAAAACGGGAAGAAT  
BIP1\_RirG196040 | 0 | DNA2 TCATTCAAATTTCTGCGATCAAGGAAGATTTTGTGAAAAACGGGAAGAAT  
BIP1\_RirG196040 | 2 | N6 TCATTCAAATTTCTGCGATCAAGGAAGATTTTGTGAAAAACGGGAAGAAT

BIP1\_RirG196040 | 1 | DNA1 TACAATCTATCGTTAATCCGATAACTACTAAATTGCATGCTGATGGTCAA  
BIP1\_RirG196040 | 3 | N33 TACAATCTATCGTTAATCCGATAACTACTAAATTGCATGCTGATGGTCAA  
RiBIP1\_RirG196040 TACAATCTATCGTTAATCCGATAACTACTAAATTGCATGCTGATGGTCAA  
BIP1\_RirG196040 | 0 | DNA2 TACAATCTATCGTTAATCCGATAACTACTAAATTGCATGCTGATGGTCAA  
BIP1\_RirG196040 | 2 | N6 TACAATCTATCGTTAATCCGATAACTACTAAATTGCATGCTGATGGTCAA

BIP1\_RirG196040 | 1 | DNA1 GCTCCACCACCACCAAGGCATGAAGATTTGTAA  
BIP1\_RirG196040 | 3 | N33 GCTCCACCACCACCAAGGCATGAAGATTTGTAA  
RiBIP1\_RirG196040 GCTCCACCACCACCAAGGCATGAAGATTTGTAA  
BIP1\_RirG196040 | 0 | DNA2 GCTCCACCACCACCAAGGCATGAAGATTTGTAA  
BIP1\_RirG196040 | 2 | N6 GCTCCACCACCACCAAGGCATGAAGATTTGTAA

## BIP2:

BIP2\_RirG160690 ATGAAGAAAGCTACTTTCTTCAAATTTATTGCAGTGTATGTTCACTGTT  
BIP2\_RirG160690 | 0 | DNA1 ATGAAGAAAGCTACTTTCTTCAAATTTATTGCAGTGTATGTTCACTGTT  
BIP2\_RirG160690 | 1 | DNA2 ATGAAGAAAGCTACTTTCTTCAAATTTATTGCAGTGTATGTTCACTGTT  
BIP2\_RirG160690 | 2 | N6 ATGAAGAAAGCTACTTTCTTCAAATTTATTGCAGTGTATGTTCACTGTT  
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BIP2\_RirG160690 AATAACTATTCCCTATTGTAATAGTAATTGCTGATGAGAAACCCGACGTTG  
BIP2\_RirG160690 | 0 | DNA1 AATAACTATTCCCTATTGTAATAGTAATTGCTGATGAGAAACCCGACGTTG  
BIP2\_RirG160690 | 1 | DNA2 AATAACTATTCCCTATTGTAATAGTAATTGCTGATGAGAAACCCGACGTTG  
BIP2\_RirG160690 | 2 | N6 AATAACTATTCCCTATTGTAATAGTAATTGCTGATGAGAAACCCGACGTTG  
\*\*\*\*\*

BIP2\_RirG160690 GAACAGGTATAAAAATTAATTGTTGAATATTGTTCTCTCGAAACTTATAA  
BIP2\_RirG160690 | 0 | DNA1 GAACAGGTATAAAAATTAATTGTTGAATATTGTTCTCTCGAAACTTATAA  
BIP2\_RirG160690 | 1 | DNA2 GAACAGGTATAAAAATTAATTGTTGAATATTGTTCTCTCGAAACTTATAA  
BIP2\_RirG160690 | 2 | N6 GAACAGGTATAAAAATTAATTGTTGAATATTGTTCTCTCGAAACTTATAA  
\*\*\*\*\*

BIP2\_RirG160690 GTCTAATATTATATTCATGGATCGACAGTTATCGGTATAGATTTAGGAA  
BIP2\_RirG160690 | 0 | DNA1 GTCTAATATTATATTCATGGATCGACAGTTATCGGTATAGATTTAGGAA  
BIP2\_RirG160690 | 1 | DNA2 GTCTAATATTATATTCATGGATCGACAGTTATCGGTATAGATTTAGGAA  
BIP2\_RirG160690 | 2 | N6 GTCTAATATTATATTCATGGATCGACAGTTATCGGTATAGATTTAGGAA  
\*\*\*\*\*

BIP2\_RirG160690 CAACTTATTCTGTGTTGGAGTACACGTAACCGGAAGATTGAGATATTG  
BIP2\_RirG160690 | 0 | DNA1 CAACTTATTCTGTGTTGGAGTACACGTAACCGGAAGATTGAGATATTG

BIP2_RirG160690	1	DNA2	CAACTTATTCTTGTGTGGAGTACACGTAACCGGAAGAGTTGAGATATTG
BIP2_RirG160690	2	N6	CAACTTATTCTTGTGTGGAGTACACGTAACCGGAAGAGTTGAGATATTG
*****			
BIP2_RirG160690			ACCAATGACCAGGGTAACCGTATCACGCCTTCTTATGTTGCCTTCACCGA
BIP2_RirG160690	0	DNA1	ACCAATGACCAGGGTAACCGTATCACGCCTTCTTATGTTGCCTTCACCGA
BIP2_RirG160690	1	DNA2	ACCAATGACCAGGGTAACCGTATCACGCCTTCTTATGTTGCCTTCACCGA
BIP2_RirG160690	2	N6	ACCAATGACCAGGGTAACCGTATCACGCCTTCTTATGTTGCCTTCACCGA
*****			
BIP2_RirG160690			TGATGAACGCTAATTGGCGATGCGGCAAAGAATCAATATTCAAATAACC
BIP2_RirG160690	0	DNA1	TGATGAACGCTAATTGGCGATGCGGCAAAGAATCAATATTCAAATAACC
BIP2_RirG160690	1	DNA2	TGATGAACGCTAATTGGCGATGCGGCAAAGAATCAATATTCAAATAACC
BIP2_RirG160690	2	N6	TGATGAACGCTAATTGGCGATGCGGCAAAGAATCAATATTCAAATAACC
*****			
BIP2_RirG160690			CTAGGAACACTATTTTTGATGCTAAGCGGCTAATTGGTCGTCGCTTTAGC
BIP2_RirG160690	0	DNA1	CTAGGAACACTATTTTTGATGCTAAGCGGCTAATTGGTCGTCGCTTTAGC
BIP2_RirG160690	1	DNA2	CTAGGAACACTATTTTTGATGCTAAGCGGCTAATTGGTCGTCGCTTTAGC
BIP2_RirG160690	2	N6	CTAGGAACACTATTTTTGATGCTAAGCGGCTAATTGGTCGTCGCTTTAGC
*****			
BIP2_RirG160690			GATAAAGAAGTTCAACAAGATATTAGGCACCTTCCATTCAAGGTCATTGA
BIP2_RirG160690	0	DNA1	GATAAAGAAGTTCAACAAGATATTAGGCACCTTCCATTCAAGGTCATTGA
BIP2_RirG160690	1	DNA2	GATAAAGAAGTTCAACAAGATATTAGGCACCTTCCATTCAAGGTCATTGA
BIP2_RirG160690	2	N6	GATAAAGAAGTTCAACAAGATATTAGGCACCTTCCATTCAAGGTCATTGA
*****			
BIP2_RirG160690			CAAAGATGGTAAACCTGTTATTCAAGTAACGTAAAAGGCGAAGAAAGAA
BIP2_RirG160690	0	DNA1	CAAAGATGGTAAACCTGTTATTCAAGTAACGTAAAAGGCGAAGAAAGAA
BIP2_RirG160690	1	DNA2	CAAAGATGGTAAACCTGTTATTCAAGTAACGTAAAAGGCGAAGAAAGAA
BIP2_RirG160690	2	N6	CAAAGATGGTAAACCTGTTATTCAAGTAACGTAAAAGGCGAAGAAAGAA
*****			
BIP2_RirG160690			TATTTACTCCTGAAGAAATTTCCGGCTATGATTCTTGGTAAAATGAAAGAA
BIP2_RirG160690	0	DNA1	TATTTACTCCTGAAGAAATTTCCGGCTATGATTCTTGGTAAAATGAAAGAA
BIP2_RirG160690	1	DNA2	TATTTACTCCTGAAGAAATTTCCGGCTATGATTCTTGGTAAAATGAAAGAA
BIP2_RirG160690	2	N6	TATTTACTCCTGAAGAAATTTCCGGCTATGATTCTTGGTAAAATGAAAGAA
*****			
BIP2_RirG160690			ATTGCAGAATCGTATTTAGGCAAGAAGGTTACACATGCAGTAGTTACAGT
BIP2_RirG160690	0	DNA1	ATTGCAGAATCGTATTTAGGCAAGAAGGTTACACATGCAGTAGTTACAGT
BIP2_RirG160690	1	DNA2	ATTGCAGAATCGTATTTAGGCAAGAAGGTTACACATGCAGTAGTTACAGT
BIP2_RirG160690	2	N6	ATTGCAGAATCGTATTTAGGCAAGAAGGTTACACATGCAGTAGTTACAGT
*****			
BIP2_RirG160690			CCCAGCTTACTTTAATGACGCTCAAAGACAAGCCACAAAAGATGCTGGCG
BIP2_RirG160690	0	DNA1	CCCAGCTTACTTTAATGACGCTCAAAGACAAGCCACAAAAGATGCTGGCG
BIP2_RirG160690	1	DNA2	CCCAGCTTACTTTAATGACGCTCAAAGACAAGCCACAAAAGATGCTGGCG
BIP2_RirG160690	2	N6	CCCAGCTTACTTTAATGACGCTCAAAGACAAGCCACAAAAGATGCTGGCG
*****			
BIP2_RirG160690			TAATTGCTGGACTTAATGTCTTCGTATTGTAAATGAACCTACGGCGGCT
BIP2_RirG160690	0	DNA1	TAATTGCTGGACTTAATGTCTTCGTATTGTAAATGAACCTACGGCGGCT
BIP2_RirG160690	1	DNA2	TAATTGCTGGACTTAATGTCTTCGTATTGTAAATGAACCTACGGCGGCT
BIP2_RirG160690	2	N6	TAATTGCTGGACTTAATGTCTTCGTATTGTAAATGAACCTACGGCGGCT
*****			
BIP2_RirG160690			GCAATTGCATATGGTCTTGATAAATCCGATGGGGAACGTCAGATTCTTGT
BIP2_RirG160690	0	DNA1	GCAATTGCATATGGTCTTGATAAATCCGATGGGGAACGTCAGATTCTTGT
BIP2_RirG160690	1	DNA2	GCAATTGCATATGGTCTTGATAAATCCGATGGGGAACGTCAGATTCTTGT
BIP2_RirG160690	2	N6	GCAATTGCATATGGTCTTGATAAATCCGATGGGGAACGTCAGATTCTTGT
*****			
BIP2_RirG160690			CTATGATCTTGGTGGTGGTACCTTTGATGTTTCTCTCTTGTCAATTGATG
BIP2_RirG160690	0	DNA1	CTATGATCTTGGTGGTGGTACCTTTGATGTTTCTCTCTTGTCAATTGATG
BIP2_RirG160690	1	DNA2	CTATGATCTTGGTGGTGGTACCTTTGATGTTTCTCTCTTGTCAATTGATG
BIP2_RirG160690	2	N6	CTATGATCTTGGTGGTGGTACCTTTGATGTTTCTCTCTTGTCAATTGATG
*****			
BIP2_RirG160690			ATGGTGTTTTTGAGGTATTGGCAACTGCCGGCGATACACATTTGGGAGGT
BIP2_RirG160690	0	DNA1	ATGGTGTTTTTGAGGTATTGGCAACTGCCGGCGATACACATTTGGGAGGT
BIP2_RirG160690	1	DNA2	ATGGTGTTTTTGAGGTATTGGCAACTGCCGGCGATACACATTTGGGAGGT
BIP2_RirG160690	2	N6	ATGGTGTTTTTGAGGTATTGGCAACTGCCGGCGATACACATTTGGGAGGT
*****			

BIP2_RirG160690			GAAGACTTCGACAACCGAGTTATTGACCACTTCGTTAAACTTTATAAAAA
BIP2_RirG160690	0	DNA1	GAAGACTTCGACAACCGAGTTATTGACCACTTCGTTAAACTTTATAAAAA
BIP2_RirG160690	1	DNA2	GAAGACTTCGACAACCGAGTTATTGACCACTTCGTTAAACTTTATAAAAA
BIP2_RirG160690	2	N6	GAAGACTTCGACAACCGAGTTATTGACCACTTCGTTAAACTTTATAAAAA
			*****
BIP2_RirG160690			GAAAAATAAGATAGATGTTACACAAGATTTAAAAGCTATGGGTAAATTA
BIP2_RirG160690	0	DNA1	GAAAAATAAGATAGATGTTACACAAGATTTAAAAGCTATGGGTAAATTA
BIP2_RirG160690	1	DNA2	GAAAAATAAGATAGATGTTACACAAGATTTAAAAGCTATGGGTAAATTA
BIP2_RirG160690	2	N6	GAAAAATAAGATAGATGTTACACAAGATTTAAAAGCTATGGGTAAATTA
			*****
BIP2_RirG160690			AGCGTGAAGTTGAAAAAGCCAAGCGTACATTATCTTCTCAAATGTCAACT
BIP2_RirG160690	0	DNA1	AGCGTGAAGTTGAAAAAGCCAAGCGTACATTATCTTCTCAAATGTCAACT
BIP2_RirG160690	1	DNA2	AGCGTGAAGTTGAAAAAGCCAAGCGTACATTATCTTCTCAAATGTCAACT
BIP2_RirG160690	2	N6	AGCGTGAAGTTGAAAAAGCCAAGCGTACATTATCTTCTCAAATGTCAACT
			*****
BIP2_RirG160690			CGTATCGAAATTGAATCATTTTCATGATGGTAAAGATTTTCCGAACTTT
BIP2_RirG160690	0	DNA1	CGTATCGAAATTGAATCATTTTCATGATGGTAAAGATTTTCCGAACTTT
BIP2_RirG160690	1	DNA2	CGTATCGAAATTGAATCATTTTCATGATGGTAAAGATTTTCCGAACTTT
BIP2_RirG160690	2	N6	CGTATCGAAATTGAATCATTTTCATGATGGTAAAGATTTTCCGAACTTT
			*****
BIP2_RirG160690			GACCCGTGCCAAATTTGAAGAACTTAATAATGATCTCTCCGTA AACAT
BIP2_RirG160690	0	DNA1	GACCCGTGCCAAATTTGAAGAACTTAATAATGATCTCTCCGTA AACAT
BIP2_RirG160690	1	DNA2	GACCCGTGCCAAATTTGAAGAACTTAATAATGATCTCTCCGTA AACAT
BIP2_RirG160690	2	N6	GACCCGTGCCAAATTTGAAGAACTTAATAATGATCTCTCCGTA AACAT
			*****
BIP2_RirG160690			TAAAGCCCGTTGAACAAGTATTGAAAGATGCAAATATTGATAAGAAGGAT
BIP2_RirG160690	0	DNA1	TAAAGCCCGTTGAACAAGTATTGAAAGATGCAAATATTGATAAGAAGGAT
BIP2_RirG160690	1	DNA2	TAAAGCCCGTTGAACAAGTATTGAAAGATGCAAATATTGATAAGAAGGAT
BIP2_RirG160690	2	N6	TAAAGCCCGTTGAACAAGTATTGAAAGATGCAAATATTGATAAGAAGGAT
			*****
BIP2_RirG160690			GTACACGATATTGTACTAGTTGGTGGTTCCACACGTATTCCCAAAGTTCA
BIP2_RirG160690	0	DNA1	GTACACGATATTGTACTAGTTGGTGGTTCCACACGTATTCCCAAAGTTCA
BIP2_RirG160690	1	DNA2	GTACACGATATTGTACTAGTTGGTGGTTCCACACGTATTCCCAAAGTTCA
BIP2_RirG160690	2	N6	GTACACGATATTGTACTAGTTGGTGGTTCCACACGTATTCCCAAAGTTCA
			*****
BIP2_RirG160690			ACAACCTCCTTGAAGAATTCCTTTAATGGCAAGAAAGCTTCCAAAAACATTA
BIP2_RirG160690	0	DNA1	ACAACCTCCTTGAAGAATTCCTTTAATGGCAAGAAAGCTTCCAAAAACATTA
BIP2_RirG160690	1	DNA2	ACAACCTCCTTGAAGAATTCCTTTAATGGCAAGAAAGCTTCCAAAAACATTA
BIP2_RirG160690	2	N6	ACAACCTCCTTGAAGAATTCCTTTAATGGCAAGAAAGCTTCCAAAAACATTA
			*****
BIP2_RirG160690			ATCCTGATGAAGCAGTTGCATATGGTGCCGCCATACAAGGAGGTATTCTT
BIP2_RirG160690	0	DNA1	ATCCTGATGAAGCAGTTGCATATGGTGCCGCCATACAAGGAGGTATTCTT
BIP2_RirG160690	1	DNA2	ATCCTGATGAAGCAGTTGCATATGGTGCCGCCATACAAGGAGGTATTCTT
BIP2_RirG160690	2	N6	ATCCTGATGAAGCAGTTGCATATGGTGCCGCCATACAAGGAGGTATTCTT
			*****
BIP2_RirG160690			TCTGGAGATGAAGATGTAAGGAAATCCTTTTGGTAGACGTTTGTCTCT
BIP2_RirG160690	0	DNA1	TCTGGAGATGAAGATGTAAGGAAATCCTTTTGGTAGACGTTTGTCTCT
BIP2_RirG160690	1	DNA2	TCTGGAGATGAAGATGTAAGGAAATCCTTTTGGTAGACGTTTGTCTCT
BIP2_RirG160690	2	N6	TCTGGAGATGAAGATGTAAGGAAATCCTTTTGGTAGACGTTTGTCTCT
			*****
BIP2_RirG160690			TACACTCGGTATTGAAACAACCTGGTGGCGTTATGACAAAATTAATTCCTC
BIP2_RirG160690	0	DNA1	TACACTCGGTATTGAAACAACCTGGTGGCGTTATGACAAAATTAATTCCTC
BIP2_RirG160690	1	DNA2	TACACTCGGTATTGAAACAACCTGGTGGCGTTATGACAAAATTAATTCCTC
BIP2_RirG160690	2	N6	TACACTCGGTATTGAAACAACCTGGTGGCGTTATGACAAAATTAATTCCTC
			*****
BIP2_RirG160690			GTAACACTGTAATTCCTACTAAGAAGTCACAAAATTTCTCTACCGCCGCG
BIP2_RirG160690	0	DNA1	GTAACACTGTAATTCCTACTAAGAAGTCACAAAATTTCTCTACCGCCGCG
BIP2_RirG160690	1	DNA2	GTAACACTGTAATTCCTACTAAGAAGTCACAAAATTTCTCTACCGCCGCG
BIP2_RirG160690	2	N6	GTAACACTGTAATTCCTACTAAGAAGTCACAAAATTTCTCTACCGCCGCG
			*****
BIP2_RirG160690			GATAACCAACCTACTGTATTAATCAAGTTTACGAAGGAGAACGTTCTAT
BIP2_RirG160690	0	DNA1	GATAACCAACCTACTGTATTAATCAAGTTTACGAAGGAGAACGTTCTAT
BIP2_RirG160690	1	DNA2	GATAACCAACCTACTGTATTAATCAAGTTTACGAAGGAGAACGTTCTAT
BIP2_RirG160690	2	N6	GATAACCAACCTACTGTATTAATCAAGTTTACGAAGGAGAACGTTCTAT
			*****

BIP2_RirG160690			GACTAAAGATAACAACCTTGCTCGGCAAGTTCGAATTAACAGGTATACCGC
BIP2_RirG160690	0	DNA1	GACTAAAGATAACAACCTTGCTCGGCAAGTTCGAATTAACAGGTATACCGC
BIP2_RirG160690	1	DNA2	GACTAAAGATAACAACCTTGCTCGGCAAGTTCGAATTAACAGGTATACCGC
BIP2_RirG160690	2	N6	GACTAAAGATAACAACCTTGCTCGGCAAGTTCGAATTAACAGGTATACCGC
			*****
BIP2_RirG160690			CTGCACCACGAGGTATACCGCAGATCGAGGTCACATTTGAAATTGATACC
BIP2_RirG160690	0	DNA1	CTGCACCACGAGGTATACCGCAGATCGAGGTCACATTTGAAATTGATACC
BIP2_RirG160690	1	DNA2	CTGCACCACGAGGTATACCGCAGATCGAGGTCACATTTGAAATTGATACC
BIP2_RirG160690	2	N6	CTGCACCACGAGGTATACCGCAGATCGAGGTCACATTTGAAATTGATACC
			*****
BIP2_RirG160690			AATGGTATAATGAAAGTATCTGCAGCAGATAAAGGTACAGGGAAAACCTGA
BIP2_RirG160690	0	DNA1	AATGGTATAATGAAAGTATCTGCAGCAGATAAAGGTACAGGGAAAACCTGA
BIP2_RirG160690	1	DNA2	AATGGTATAATGAAAGTATCTGCAGCAGATAAAGGTACAGGGAAAACCTGA
BIP2_RirG160690	2	N6	AATGGTATAATGAAAGTATCTGCAGCAGATAAAGGTACAGGGAAAACCTGA
			*****
BIP2_RirG160690			ATCGATTACAATTACAACGATAAAGGTCGTCTTTCTAAAGAAGAAATTG
BIP2_RirG160690	0	DNA1	ATCGATTACAATTACAACGATAAAGGTCGTCTTTCTAAAGAAGAAATTG
BIP2_RirG160690	1	DNA2	ATCGATTACAATTACAACGATAAAGGTCGTCTTTCTAAAGAAGAAATTG
BIP2_RirG160690	2	N6	ATCGATTACAATTACAACGATAAAGGTCGTCTTTCTAAAGAAGAAATTG
			*****
BIP2_RirG160690			ATCGTATGGTTGAAGAAGCCGAACAATTTGCTGAAGATGATAAGTTTCAA
BIP2_RirG160690	0	DNA1	ATCGTATGGTTGAAGAAGCCGAACAATTTGCTGAAGATGATAAGTTTCAA
BIP2_RirG160690	1	DNA2	ATCGTATGGTTGAAGAAGCCGAACAATTTGCTGAAGATGATAAGTTTCAA
BIP2_RirG160690	2	N6	ATCGTATGGTTGAAGAAGCCGAACAATTTGCTGAAGATGATAAGTTTCAA
			*****
BIP2_RirG160690			AAGGAACGCGTAGAATCCAGAAATCAGCTTGAAAATTTTGCATACACAAT
BIP2_RirG160690	0	DNA1	AAGGAACGCGTAGAATCCAGAAATCAGCTTGAAAATTTTGCATACACAAT
BIP2_RirG160690	1	DNA2	AAGGAACGCGTAGAATCCAGAAATCAGCTTGAAAATTTTGCATACACAAT
BIP2_RirG160690	2	N6	AAGGAACGCGTAGAATCCAGAAATCAGCTTGAAAATTTTGCATACACAAT
			*****
BIP2_RirG160690			CAAAAGTCAAATTTCTGATGACGGAGAACTTGGTAAGAAAATAAGCGATG
BIP2_RirG160690	0	DNA1	CAAAAGTCAAATTTCTGATGACGGAGAACTTGGTAAGAAAATAAGCGATG
BIP2_RirG160690	1	DNA2	CAAAAGTCAAATTTCTGATGACGGAGAACTTGGTAAGAAAATAAGCGATG
BIP2_RirG160690	2	N6	CAAAAGTCAAATTTCTGATGACGGAGAACTTGGTAAGAAAATAAGCGATG
			*****
BIP2_RirG160690			ACGACAAGAAAACCTATTAAGATGCAATCAAGACGGTTGAAGATTGGTTG
BIP2_RirG160690	0	DNA1	ACGACAAGAAAACCTATTAAGATGCAATCAAGACGGTTGAAGATTGGTTG
BIP2_RirG160690	1	DNA2	ACGACAAGAAAACCTATTAAGATGCAATCAAGACGGTTGAAGATTGGTTG
BIP2_RirG160690	2	N6	ACGACAAGAAAACCTATTAAGATGCAATCAAGACGGTTGAAGATTGGTTG
			*****
BIP2_RirG160690			AATGACCATTCAATTTCTGCGACCAAGGAAGATTTTGATGAAAACCGGGA
BIP2_RirG160690	0	DNA1	AATGACCATTCAATTTCTGCGACCAAGGAAGATTTTGATGAAAACCGGGA
BIP2_RirG160690	1	DNA2	AATGACCATTCAATTTCTGCGACCAAGGAAGATTTTGATGAAAACCGGGA
BIP2_RirG160690	2	N6	AATGACCATTCAATTTCTGCGACCAAGGAAGATTTTGATGAAAACCGGGA
			*****
BIP2_RirG160690			AGAATTACAATCAATCGTTAATCCAATAACTACTAAATTGTATGCTGATG
BIP2_RirG160690	0	DNA1	AGAATTACAATCAATCGTTAATCCAATAACTACTAAATTGTATGCTGATG
BIP2_RirG160690	1	DNA2	AGAATTACAATCAATCGTTAATCCAATAACTACTAAATTGTATGCTGATG
BIP2_RirG160690	2	N6	AGAATTACAATCAATCGTTAATCCAATAACTACTAAATTGTATGCTGATG
			*****
BIP2_RirG160690			GTCAAGCTCCACCTTCACACGAGGAACCACCAAGGCATGAAGATTTGTAA
BIP2_RirG160690	0	DNA1	GTCAAGCTCCACCTTCACACGAGGAACCACCAAGGCATGAAGATTTGTAA
BIP2_RirG160690	1	DNA2	GTCAAGCTCCACCTTCACACGAGGAACCACCAAGGCATGAAGATTTGTAA
BIP2_RirG160690	2	N6	GTCAAGCTCCACCTTCACACGAGGAACCACCAAGGCATGAAGATTTGTAA
			*****

**BIP3:**

BIP3_RirG043980			ATGAAGAAAGCTACTTTCTTTAAATTTATTGCATTGTTATGTTCACTGTT
BIP3_RirG043980	0	DNA2	ATGAAGAAAGCTACTTTCTTTAAATTTATTGCATTGTTATGTTCACTGTT
BIP3_RirG043980	1	DNA1	ATGAAGAAAGCTACTTTCTTTAAATTTATTGCATTGTTATGTTCACTGTT
BIP3_RirG043980	2	N33	ATGAAGAAAGCTACTTTCTTTAAATTTATTGCATTGTTATGTTCACTGTT
BIP3_RirG043980	3	N31	ATGAAGAAAGCTACTTTCTTTAAATTTATTGCATTGTTATGTTCACTGTT
BIP3_RirG043980	5	N36	-----
BIP3_RirG043980	4	N6	ATGAAGAAAGCTACTTTCTTTAAATTTATTGCATTGTTATGTTCACTGTT
BIP3_RirG043980			AATAACTATTCTTATTGCAAAAAGTTATTGTAATTGATGAATCTGACGTTG
BIP3_RirG043980	0	DNA2	AATAACTATTCTTATTGCAAAAAGTTATTGTAATTGATGAATCTGACGTTG
BIP3_RirG043980	1	DNA1	AATAACTATTCTTATTGCAAAAAGTTATTGTAATTGATGAATCTGACGTTG
BIP3_RirG043980	2	N33	AATAACTATTCTTATTGCAAAAAGTTATTGTAATTGATGAATCTGACGTTG
BIP3_RirG043980	3	N31	AATAACTATTCTTATTGCAAAAAGTTATTGTAATTGATGAATCTGACGTTG
BIP3_RirG043980	5	N36	-----
BIP3_RirG043980	4	N6	AATAACTATTCTTATTGCAAAAAGTTATTGTAATTGATGAATCTGACGTTG
BIP3_RirG043980			GAACAGGTATAAAAATTAATTGCTGAATATTGTTCTTTTGAAACTTATAAG
BIP3_RirG043980	0	DNA2	GAACAGGTATAAAAATTAATTGCTGAATATTGTTCTTTTGAAACTTATAAG
BIP3_RirG043980	1	DNA1	GAACAGGTATAAAAATTAATTGCTGAATATTGTTCTTTTGAAACTTATAAG
BIP3_RirG043980	2	N33	GAACAGGTATAAAAATTAATTGCTGAATATTGTTCTTTTGAAACTTATAAG
BIP3_RirG043980	3	N31	GAACAGGTATAAAAATTAATTGCTGAATATTGTTCTTTTGAAACTTATAAG
BIP3_RirG043980	5	N36	-----
BIP3_RirG043980	4	N6	GAACAGGTATAAAAATTAATTGCTGAATATTGTTCTTTTGAAACTTATAAG
BIP3_RirG043980			TTCTAATATTATATCGTCAGTTATCGGTATAGATTTAGGAACAACCTTATT
BIP3_RirG043980	0	DNA2	TTCTAATATTATATCGTCAGTTATCGGTATAGATTTAGGAACAACCTTATT
BIP3_RirG043980	1	DNA1	TTCTAATATTATATCGTCAGTTATCGGTATAGATTTAGGAACAACCTTATT
BIP3_RirG043980	2	N33	TTCTAATATTATATCGTCAGTTATCGGTATAGATTTAGGAACAACCTTATT
BIP3_RirG043980	3	N31	TTCTAATATTATATCGTCAGTTATCGGTATAGATTTAGGAACAACCTTATT
BIP3_RirG043980	5	N36	-----
BIP3_RirG043980	4	N6	TTCTAATATTATATCGTCAGTTATCGGTATAGATTTAGGAACAACCTTATT
BIP3_RirG043980			CTTGTGTTGGAGTATACGTGAACGGAAGAGTTGAGATATTGACCAATGAT
BIP3_RirG043980	0	DNA2	CTTGTGTTGGAGTATACGTGAACGGAAGAGTTGAGATATTGACCAATGAT
BIP3_RirG043980	1	DNA1	CTTGTGTTGGAGTATACGTGAACGGAAGAGTTGAGATATTGACCAATGAT
BIP3_RirG043980	2	N33	CTTGTGTTGGAGTATACGTGAACGGAAGAGTTGAGATATTGACCAATGAT
BIP3_RirG043980	3	N31	CTTGTGTTGGAGTATACGTGAACGGAAGAGTTGAGATATTGACCAATGAT
BIP3_RirG043980	5	N36	-----
BIP3_RirG043980	4	N6	CTTGTGTTGGAGTATACGTGAACGGAAGAGTTGAGATATTGACCAATGAT
BIP3_RirG043980			CAGGTAACCGTATCACGCCTTCTTATGTTGCCTTCACCGATGATGAACG
BIP3_RirG043980	0	DNA2	CAGGTAACCGTATCACGCCTTCTTATGTTGCCTTCACCGATGATGAACG
BIP3_RirG043980	1	DNA1	CAGGTAACCGTATCACGCCTTCTTATGTTGCCTTCACCGATGATGAACG
BIP3_RirG043980	2	N33	CAGGTAACCGTATCACGCCTTCTTATGTTGCCTTCACCGATGATGAACG
BIP3_RirG043980	3	N31	CAGGTAACCGTATCACGCCTTCTTATGTTGCCTTCACCGATGATGAACG
BIP3_RirG043980	5	N36	-----
BIP3_RirG043980	4	N6	CAGGTAACCGTATCACGCCTTCTTATGTTGCCTTCACCGATGATGAACG
BIP3_RirG043980			TTTAATTGGCGATGCGGCAAAGAATCAATATTCAAATAACTCTAAGAACA
BIP3_RirG043980	0	DNA2	TTTAATTGGCGATGCGGCAAAGAATCAATATTCAAATAACTCTAAGAACA
BIP3_RirG043980	1	DNA1	TTTAATTGGCGATGCGGCAAAGAATCAATATTCAAATAACTCTAAGAACA
BIP3_RirG043980	2	N33	TTTAATTGGCGATGCGGCAAAGAATCAATATTCAAATAACTCTAAGAACA
BIP3_RirG043980	3	N31	TTTAATTGGCGATGCGGCAAAGAATCAATATTCAAATAACTCTAAGAACA
BIP3_RirG043980	5	N36	-----
BIP3_RirG043980	4	N6	TTTAATTGGCGATGCGGCAAAGAATCAATATTCAAATAACTCTAAGAACA
BIP3_RirG043980			CCATTTTGGTTTTAAGCGACTAATTGGTCGTCGCTTTAGCGATAAAGAG
BIP3_RirG043980	0	DNA2	CCATTTTGGTTTTAAGCGACTAATTGGTCGTCGCTTTAGCGATAAAGAG
BIP3_RirG043980	1	DNA1	CCATTTTGGTTTTAAGCGACTAATTGGTCGTCGCTTTAGCGATAAAGAG
BIP3_RirG043980	2	N33	CCATTTTGGTTTTAAGCGACTAATTGGTCGTCGCTTTAGCGATAAAGAG
BIP3_RirG043980	3	N31	CCATTTTGGTTTTAAGCGACTAATTGGTCGTCGCTTTAGCGATAAAGAG
BIP3_RirG043980	5	N36	-----
BIP3_RirG043980	4	N6	CCATTTTGGTTTTAAGCGACTAATTGGTCGTCGCTTTAGCGATAAAGAG
BIP3_RirG043980			GTTCAACAAGATATTAAGCAGTTTCCATTCAAGGTCATTGACAAAGATGG
BIP3_RirG043980	0	DNA2	GTTCAACAAGATATTAAGCAGTTTCCATTCAAGGTCATTGACAAAGATGG
BIP3_RirG043980	1	DNA1	GTTCAACAAGATATTAAGCAGTTTCCATTCAAGGTCATTGACAAAGATGG
BIP3_RirG043980	2	N33	GTTCAACAAGATATTAAGCAGTTTCCATTCAAGGTCATTGACAAAGATGG
BIP3_RirG043980	3	N31	GTTCAACAAGATATTAAGCAGTTTCCATTCAAGGTCATTGACAAAGATGG
BIP3_RirG043980	5	N36	-----
BIP3_RirG043980	4	N6	GTTCAACAAGATATTAAGCAGTTTCCATTCAAGGTCATTGACAAAGATGG
BIP3_RirG043980			TAAACCTGTTATTCAAATCACTGTAAAAAGCGAAGAAAGAATTTTACTC
BIP3_RirG043980	0	DNA2	TAAACCTGTTATTCAAATCACTGTAAAAAGCGAAGAAAGAATTTTACTC
BIP3_RirG043980	1	DNA1	TAAACCTGTTATTCAAATCACTGTAAAAAGCGAAGAAAGAATTTTACTC



BIP3\_RirG043980 | 2 | N33 TAAACCTGTTATTCAAATCACTGTAAAAAGCGAAGAAAGAATATTTACTC  
BIP3\_RirG043980 | 3 | N31 TAAACCTGTTATTCAAATCACTGTAAAAAGCGAAGAAAGAATATTTACTC  
BIP3\_RirG043980 | 5 | N36 -----  
BIP3\_RirG043980 | 4 | N6 TAAACCTGTTATTCAAATCACTGTAAAAAGCGAAGAAAGAATATTTACTC

BIP3\_RirG043980 CTGAAGAAATTTTCGGCTATGATTCTTGGTAAAAATGAAAGAAATTCGAAAA  
BIP3\_RirG043980 | 0 | DNA2 CTGAAGAAATTTTCGGCTATGATTCTTGGTAAAAATGAAAGAAATTCGAAAA  
BIP3\_RirG043980 | 1 | DNA1 CTGAAGAAATTTTCGGCTATGATTCTTGGTAAAAATGAAAGAAATTCGAAAA  
BIP3\_RirG043980 | 2 | N33 CTGAAGAAATTTTCGGCTATGATTCTTGGTAAAAATGAAAGAAATTCGAAAA  
BIP3\_RirG043980 | 3 | N31 CTGAAGAAATTTTCGGCTATGATTCTTGGTAAAAATGAAAGAAATTCGAAAA  
BIP3\_RirG043980 | 5 | N36 -----  
BIP3\_RirG043980 | 4 | N6 CTGAAGAAATTTTCGGCTATGATTCTTGGTAAAAATGAAAGAAATTCGAAAA

BIP3\_RirG043980 TCGTATTTAGGCAAGAAAGTTACACATGCAGTAGTTACAGTCCCAGCTTA  
BIP3\_RirG043980 | 0 | DNA2 TCGTATTTAGGCAAGAAAGTTACACATGCAGTAGTTACAGTCCCAGCTTA  
BIP3\_RirG043980 | 1 | DNA1 TCGTATTTAGGCAAGAAAGTTACACATGCAGTAGTTACAGTCCCAGCTTA  
BIP3\_RirG043980 | 2 | N33 TCGTATTTAGGCAAGAAAGTTACACATGCAGTAGTTACAGTCCCAGCTTA  
BIP3\_RirG043980 | 3 | N31 TCGTATTTAGGCAAGAAAGTTACACATGCAGTAGTTACAGTCCCAGCTTA  
BIP3\_RirG043980 | 5 | N36 -----CAAGAAAGTTACACATGCAGTAGTTACAGTCCCAGCTTA  
BIP3\_RirG043980 | 4 | N6 TCGTATTTAGGCAAGAAAGTTACACATGCAGTAGTTACAGTCCCAGCTTA  
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BIP3\_RirG043980 CTTTAAATGACGCTCAAAGACAAGCCACAAAAATATGCTGGCGTAATTGCTG  
BIP3\_RirG043980 | 0 | DNA2 CTTTAAATGACGCTCAAAGACAAGCCACAAAAATATGCTGGCGTAATTGCTG  
BIP3\_RirG043980 | 1 | DNA1 CTTTAAATGACGCTCAAAGACAAGCCACAAAAATATGCTGGCGTAATTGCTG  
BIP3\_RirG043980 | 2 | N33 CTTTAAATGACGCTCAAAGACAAGCCACAAAAATATGCTGGCGTAATTGCTG  
BIP3\_RirG043980 | 3 | N31 CTTTAAATGACGCTCAAAGACAAGCCACAAAAATATGCTGGCGTAATTGCTG  
BIP3\_RirG043980 | 5 | N36 CTTTAAATGACGCTCAAAGACAAGCCACAAAAATATGCTGGCGTAATTGCTG  
BIP3\_RirG043980 | 4 | N6 CTTTAAATGACGCTCAAAGACAAGCCACAAAAATATGCTGGCGTAATTGCTG  
\*\*\*\*\*

BIP3\_RirG043980 GACTTAATGTCCTTCGTATTGTAATGAACCTACGGAGGCTGCAATTGCA  
BIP3\_RirG043980 | 0 | DNA2 GACTTAATGTCCTTCGTATTGTAATGAACCTACGGAGGCTGCAATTGCA  
BIP3\_RirG043980 | 1 | DNA1 GACTTAATGTCCTTCGTATTGTAATGAACCTACGGAGGCTGCAATTGCA  
BIP3\_RirG043980 | 2 | N33 GACTTAATGTCCTTCGTATTGTAATGAACCTACGGAGGCTGCAATTGCA  
BIP3\_RirG043980 | 3 | N31 GACTTAATGTCCTTCGTATTGTAATGAACCTACGGAGGCTGCAATTGCA  
BIP3\_RirG043980 | 5 | N36 GACTTAATGTCCTTCGTATTGTAATGAACCTACGGAGGCTGCAATTGCA  
BIP3\_RirG043980 | 4 | N6 GACTTAATGTCCTTCGTATTGTAATGAACCTACGGAGGCTGCAATTGCA  
\*\*\*\*\*

BIP3\_RirG043980 TATGATCTTTATAAATCCGATGGGGAACGTCAGATTCTTGCTCTATGATCT  
BIP3\_RirG043980 | 0 | DNA2 TATGATCTTTATAAATCCGATGGGGAACGTCAGATTCTTGCTCTATGATCT  
BIP3\_RirG043980 | 1 | DNA1 TATGATCTTTATAAATCCGATGGGGAACGTCAGATTCTTGCTCTATGATCT  
BIP3\_RirG043980 | 2 | N33 TATGATCTTTATAAATCCGATGGGGAACGTCAGATTCTTGCTCTATGATCT  
BIP3\_RirG043980 | 3 | N31 TATGATCTTTATAAATCCGATGGGGAACGTCAGATTCTTGCTCTATGATCT  
BIP3\_RirG043980 | 5 | N36 TATGATCTTTATAAATCCGATGGGGAACGTCAGATTCTTGCTCTATGATCT  
BIP3\_RirG043980 | 4 | N6 TATGATCTTTATAAATCCGATGGGGAACGTCAGATTCTTGCTCTATGATCT  
\*\*\*\*\*

BIP3\_RirG043980 TGGTGGTGGTACCTTTGATGTTTCTCTCTTGTCAATCGATGATGGTGT  
BIP3\_RirG043980 | 0 | DNA2 TGGTGGTGGTACCTTTGATGTTTCTCTCTTGTCAATCGATGATGGTGT  
BIP3\_RirG043980 | 1 | DNA1 TGGTGGTGGTACCTTTGATGTTTCTCTCTTGTCAATCGATGATGGTGT  
BIP3\_RirG043980 | 2 | N33 TGGTGGTGGTACCTTTGATGTTTCTCTCTTGTCAATCGATGATGGTGT  
BIP3\_RirG043980 | 3 | N31 TGGTGGTGGTACCTTTGATGTTTCTCTCTTGTCAATCGATGATGGTGT  
BIP3\_RirG043980 | 5 | N36 TGGTGGTGGTACCTTTGATGTTTCTCTCTTGTCAATCGATGATGGTGT  
BIP3\_RirG043980 | 4 | N6 TGGTGGTGGTACCTTTGATGTTTCTCTCTTGTCAATCGATGATGGTGT  
\*\*\*\*\*

BIP3\_RirG043980 TTGAAGTATTGGCAACTGCCGGCGATACACATTTGGGAGGTGAAGACTTC  
BIP3\_RirG043980 | 0 | DNA2 TTGAAGTATTGGCAACTGCCGGCGATACACATTTGGGAGGTGAAGACTTC  
BIP3\_RirG043980 | 1 | DNA1 TTGAAGTATTGGCAACTGCCGGCGATACACATTTGGGAGGTGAAGACTTC  
BIP3\_RirG043980 | 2 | N33 TTGAAGTATTGGCAACTGCCGGCGATACACATTTGGGAGGTGAAGACTTC  
BIP3\_RirG043980 | 3 | N31 TTGAAGTATTGGCAACTGCCGGCGATACACATTTGGGAGGTGAAGACTTC  
BIP3\_RirG043980 | 5 | N36 TTGAAGTATTGGCAACTGCCGGCGATACACATTTGGGAGGTGAAGACTTC  
BIP3\_RirG043980 | 4 | N6 TTGAAGTATTGGCAACTGCCGGCGATACACATTTGGGAGGTGAAGACTTC  
\*\*\*\*\*

BIP3\_RirG043980 GACAACCGAGTTATTGACTACTTCGTTAAACTTTATAAAAAAGAAAAATAA  
BIP3\_RirG043980 | 0 | DNA2 GACAACCGAGTTATTGACTACTTCGTTAAACTTTATAAAAAAGAAAAATAA  
BIP3\_RirG043980 | 1 | DNA1 GACAACCGAGTTATTGACTACTTCGTTAAACTTTATAAAAAAGAAAAATAA  
BIP3\_RirG043980 | 2 | N33 GACAACCGAGTTATTGACTACTTCGTTAAACTTTATAAAAAAGAAAAATAA  
BIP3\_RirG043980 | 3 | N31 GACAACCGAGTTATTGACTACTTCGTTAAACTTTATAAAAAAGAAAAATAA  
BIP3\_RirG043980 | 5 | N36 GACAACCGAGTTATTGACTACTTCGTTAAACTTTATAAAAAAGAAAAATAA  
BIP3\_RirG043980 | 4 | N6 GACAACCGAGTTATTGACTACTTCGTTAAACTTTATAAAAAAGAAAAATAA  
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BIP3_RirG043980 | 5 | N36      ATACGGATATACCAATGA
BIP3_RirG043980 | 4 | N6      ATACGGATATACCAATGA
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Figure S3. **Alignments of BIP sequences across the seven *R. irregularis* assemblies.** The *BIP* sequence AJ319763.1 was used to identify the homologous sequences in the assemblies.