

New *Phytologist* Supporting Information

Article title: **A new mode of NPR1 action via an NB-ARC-NPR1 fusion protein negatively regulates defense response to stem rust pathogen in wheat**

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Notes S3: The alignment of the cDNAs of the *TaG7NPR1* genes and the location of the target region for silencing.

CLUSTAL O(1.2.4) multiple sequence alignment

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G7ANBS-cDNA2          ATGGGTGCGTGCCTCCTCCACCGGTGTCGCCGGCGTGAAGAAGGGCCCGTGGACGGTA      60
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  ATGGGGAGGTACCGTCTCGGTAGTGAGGCCCCCGTCAAGAAGGGCCCGTGGACGGAG      60
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  ATGGGGAGGTGCGCGTCTGTCAGCAGTGAGCCCCCTTGAAGAAGGGCCCATGGACGGAG      60
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G7ANBS-cDNA2          GAGGAGGATATACTGCTATAAATACTTCCAGAGGCATGGCAACGGCGGCAACTGGCGA      120
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  GAGGAGGACAGGCTGCTCGTGGACTACATCAAGTTGCATGGCACCGGCGCAACTGGCGA      120
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  GAGGAGGACAGGCTGCTCGTGGACTACATCAAGTTGCATGGCACCGGCGCAACTGGCGA      120
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G7ANBS-cDNA2          ACCTTGCCCCAGTGCGCCGGCTGAACCGCTCCGGCAAGAGTGCCGCTCCGCTGGACC      180
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  ACCATCCCCAAGCGCGTGGCCTCAACCGTGCAGCAAGAGTGCCGCTCCGTTGGACC      180
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  ACCATCCCCAAGCGCGCCTCAACCGTGCAGCAAGAGTGCCGCTCCGTTGGACC      180
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G7ANBS-cDNA2          AACTACCTCCGCCCAACATCAAGCGGGAACCTTACCAGATGAGGAGAAAACCATC      240
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  AACTACCTCCACCCGACATCAAGCGGACCCTTACCAGATGAGGAGAAAACCATC      240
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  AACTACCTCCACCCGACATCAAGCGGACCCTTACCAGATGAGGAGAGAAAACCATC      240
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G7ANBS-cDNA2          ATACACCTCCACTCCATTCACGGGAACAAGTGGTCGGCGATCGCGACTATTGCCGGGG      300
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  ATCCACCTCCACTCCATGCTCGGCAACAAGTGGTCGGCGATTGCAACCCATCTGCCGGGA      300
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  ATCCACCTCCACTCCATGCTCGGCAACAAGTGGTCGGCGATTGCAACCCATCTGCCAGGA      300
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G7ANBS-cDNA2          AGAACAGGCAATTTATCAAGAATTACTGGAACACGAACTGCGCAAGAAGTCTCCAG      360
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  AGGACAGGCAATTTATCAAGAATTACTGGAACATGAACTGCGCAAGAAGTCTCCAC      360
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  AGGACAGGCAATTTATCAAGAATTACTGGAACACAACTGCGCAAGAAGTCTCCAC      360
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G7ANBS-cDNA2          ATGGGCATCAACCCCGTCACGCACCGACACTGAC---CTCAGCATGCTCAAGGGGCTC      417
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  ATGGGCATCGACCCATCACGCACAGCCCGCGCGGACCTCAGCCAGCTTACAGGGCTC      420
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATGGGCATGACCCCATCAGCACAACCCGGCACCACCTCAGCCAGCTTACAGGGCTC	420
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G7ANBS-cDNA2	CCGGCCTGCACGCCGT-----GCCCGGTAATAGCCTCTCCTTGGTGTCAGCATG	471
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CCAGTCTCCCGCCACCGCCGCCCCAGTAATAGCCTCTC---CGGCGTCAGCATG	477
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CCAGTCTCCCGCCACCGCCGCCCCAGTAATAGCCTCTC---CAGCGTCAGCATG	477
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G7ANBS-cDNA2	-----GGCACCAGGCACAGCCACACCAACGCGGCCAGCTTCGCC	513
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GGCCCCAGCGCTGGGACATGAATGCTGTCCAGGCCACGCGCAGTGGCCAGCTTCGCC	537
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CCCCCAGCACCTGGGACATGAATGCTGCCAGGCCACGCTGACGTGGCCAGCTTCGCC	537
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G7ANBS-cDNA2	GGGAGCAGCTCGGACATGAACACTCTCGGGATCAAGGACAAAGCAGCCAGCTTCGCCGG	573
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GGGGGCGGCTCGGACATGAACACTCTCAGGATCAAGGACGAAGTACCAGCTTCACCGC	597
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GGGGG-----GGTCTCAGGATCAAGGACGAAGTACCAGCTTCACCGC	582
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G7ANBS-cDNA2	AGCAGCAGCTCGGACATGACTACTCTCGGGTCAAGGACGAAGCCGCGCAGCTTCAGTGC	633
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	---AGTACTCAGACATGAAACCTCCAGGATCAAGGATGAAGCCAGCAGCTTCACCGT	654
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	---AGTACTCAGACATGAAACCTCCTATGATCAAGGATGAAGCCAGCAGCTTCACCGC	639
	** ** * ** * ** * ** * ** * ** * ** *	
G7ANBS-cDNA2	AGCCACTCAGACATGAAACCTCCAGGATCAAGGACAAAGCCGCGCAGCTTACCGCAAC	693
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGCCACTCGGAAATGAAACCTCCAGAATCAAGTACGAAGCCGCGCAGCTTACAGTAGC	714
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGTACTCGGAACTGAAACCTCCAGGATCAAGTACGAAGCCAGCTTACCGGTAGC	699
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G7ANBS-cDNA2	TACTCGAAGATGAAACCTTTCAGGATCAAGGACGAAGCCAGCTTCACTGGCAGCTAC	753
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CACTCGGACATGAAACCTCCAGGATCAAGGACGAAGCCGCGCAGCTTCACTGGAAGACAC	774
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CACTCGGACATGAAACCTCAGGATCAAGGACGAAGCCGCGCAGCTTCACTGGCAGACAC	759
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G7ANBS-cDNA2	TCGGACATGAATCTCTCAGGATCAAGGACGAAGCCAGCTTACAGGACGCTACTCG	813
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCGGACATGAAACCTCTCAGGATCAAGGACGAAGCCGCGCTGCTTACCGGACGCTACTCG	834
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCGGACATGAAACCTCTCAGGATCAAGGACGAAGCCGCGCTTACCGGACGTTGCTCG	819
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G7ANBS-cDNA2	GACATTAATCTGTGAGTCTCAGGACGAAACACCAGCTTCACTGGCAGCTACTCGGC	873
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GACAGGAAACCTCCAGGATCCAGGACGAAG-----GCAGTACTCAGGC	879
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GACAGGAAACCTCCAGGATCCAGGACGAAG-----GCAGTACTCAGGC	864
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G7ANBS-cDNA2	ACCGCAGTGGCTGGGACATGAATGCTCTCCGGGCTCAGGCCGACCCGACAAGTTC	933

TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GCTGTTGCTGGCTGGGACATGAACACTCTCTCCATGCTCCAGCCCAACACCGCCAAGTTC	939
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GCTGGTGCTGGTTGGGACATGAACACTCTCTCCATGCGCCAGTCCAACGCGCCAAGTTC	924
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G7ANBS-cDNA2	CAGCTCCTCCAGGACCATTGTTGGGTGATCAGTGCTTCGTTGGGCGCCATGAGAGCCCTT	993
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CATCTCCTCCAGGGCCATTGTTGGGTGATCAGTGCTTCCTTGGGCGCCATGAGAGCTCTT	999
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CATCTCCTCCAGGGCCATTGTTGGGTGATCAGTGCTTCCTTGGGCGCCATGAGAGCTCTT	984
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G7ANBS-cDNA2	GTTGAGAAGCTGGACATGCTGCTGCTAGCTTATTCATCTCTCAGGAATGCTCTCCAAG	1053
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTTGGGAAGCTGGAGCTGCTGCTAGATGATTTCATCTCTCAGAAATCTTCTCCAAG	1059
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTTGGGAAGCTGGACATGCTGCTGCTAGATGATTTCATCTCTCAGAAATCTTCTCCAAG	1044
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G7ANBS-cDNA2	AGGGTGAAGGATGGGATGCACCTTCTCAAAGATGACCTGAAGAGATAAGCTCTACCTT	1113
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGGGTGAAGGATGGGTTGCGCCTCTCAAAGATGATGTGAAGAGCTAAGCTCTACCTT	1119
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGGGTGAAGGATGGGATGCCTCTCAAAGATGATGTGAAGAGATAAGCTCTACCTT	1104
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G7ANBS-cDNA2	GATGAACTTTTAGAGGTTGAGGACCCTCCCCGATGGCCATGTGCTGGATGAATGAGGCA	1173
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GATGAACTGTGAGGTTGATGACCATCCCCAATAGCCATGTGCTGGATGAATGAGGCG	1179
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GATGAACTGTGAGGTTGATGACCATCCCCAATAGCCATGTGCTGGATGAATGAGGTG	1164
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G7ANBS-cDNA2	CGCGAACTGTCTTATGACATGGAGGATTACATTGACAGCTTATTATTATGTGCCACCT	1233
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CGTGATCTGTCTTACGACATGGAGGATTACATTGACAGCCTTTTA---TCTGTGCCACCT	1236
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CGTGACCTGTCTTACGACATGGAGGATTACATTGACAGCCTTTTA---TCTGTGCCACCT	1221
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G7ANBS-cDNA2	GACCATTTCAACAAAAAAGAAGAGGAAGAAGATAAAAAAGAAGATAATAAAGAAGAGG	1293
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GACCATTTCAACAAAAACAAGAAGAAGAAAAACAAGAAGATGATGACCATAAAGAAGAGG	1296
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GACCATTTCAACAAAAACAAGAAGAAGAAAAACAAGAAGATGATGACCATAAAGAAGAGG	1281
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G7ANBS-cDNA2	CTCAAGTGGCACAGACATCACATACATTGCGCAAGTGTGAGAACATGGTGTGAGGACC	1353
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTCAAAATGGTACAAACAGATCACATACGTCACGCAAGTGTGAGAACATGGTGTGAGGACC	1356
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTCAAAATGGTACAAACAGATCACATACGTCATGCAAGTGTGAGAACATGGTGTGAGGACC	1341
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G7ANBS-cDNA2	AGCAAACGCGATTATGTTACTGTTGTCCTCCTCTTCCAAAAAGTCCAAGATTGCGGAA	1413
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGCAAACGCGTTATGTTAGTGTGTCCTCGTCTTCCAAAGAAGCCCAAGATTGCGGAA	1416
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGCAAACGCGTTATGTTAGTGTGTCCTCGTCTTCCAAAGAAGCCCAAGATTGCGGAA	1401
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G7ANBS-cDNA2	ACAATATCAGAATTCAGGATCTATGTCCAGGAGGCAATTGAACGGCATGAC-----	1464
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ACAATTCAGATTCAGGATCTATGTCCAGGAGGCCATTGAACGGTACGATAGATATATG	1476
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ACAATTCAGATTCAGGATCTATGTCCAGGAGGCTATTGAACGGTATGACAGATATAAT	1461
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G7ANBS-cDNA2	-----	1464
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTCCATTGTTGCAGCAACTTGAGGAGACGTACATCTTGTCCACTGGCCATATGCTTCCA	1536
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTCCATTGTTGCAGCAACTTGAGGAGACGTACATCTTGTCCACTGGCCATATGCTTCCA	1521
G7ANBS-cDNA2	-----	1464
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATGCACTATGAAGAAACCAATGATCATGTTGTAATTGATGGCCGGATGAATGAGTTTATC	1596
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATGCACTATGAAGAAACCAATGATCAGCTTGTAAATTGATGGCCGGATGAATGAGTTTATC	1581
G7ANBS-cDNA2	-----	1464
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GACTCACTGGTGGCTGATATTGTGGCAGATCAGCAGCAGCTCAAGTGGTATCTGTCCCTT	1656
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GACTCACTGGTGG-----CAGATCAGCAGCAGCTCAAGTGGTATCTGTCCCTT	1629
G7ANBS-cDNA2	-----	1464
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GGATCTGGATGTCTGGGTAATACTACACTTGCCAAAGTGTGTACAACAGAATTGGGATA	1716
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GGATTTGGATGTCTGGGTAATACTACACTTGCCAAAGTGTGTACAACAGAATTGGGATG	1689
G7ANBS-cDNA2	-----	1464
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CAATTTGATTGCAGAGCTTTCATTCGGATGCCAAAAGCCGGATATGCAGATACTTTTC	1776
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CAATTTGATTGCAGAGCTTTCATTCGAGTGTCCAAAAGCCGGATATGCAGATACTTTTC	1749
G7ANBS-cDNA2	-----	1464
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGCGACTTGTCTCACAACCCACCAGAAAAGCGGCCACTACATGCCAATTCTAATGAG	1836
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGCGACTTGTCTCACAACCCACCAGAAAAGCGGCCAATACATGCCAATTCTAATGAG	1809
G7ANBS-cDNA2	-----AGGTCTAATAGTC	1477
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTTGGCATCAGCGACATTAATATCAGAAAACATCTGCAAGATAAAAGGTATCTAATGT	1896
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTTGGCATCAGCGACATTAATATCAGAAAACATCTGCAAGATAAAAGGTACCTAATTAT	1869
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G7ANBS-cDNA2	ATTGATGACTTGTGGGATGCATCAGCATGGGATATTATAAATGTGCTTTTCCGAAGGGA	1537
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATTGATGATTGTGGGACGCATCAGCATGGGATATTATCAAGTATGCCTTTCCAAATGGA	1956
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATTGATGATTGTGGGACGCATCAGCATGGGATATTATCAAAATGCTTTTCCAAATGGA	1929
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G7ANBS-cDNA2	AGCCATGGCAGTAGAATAATAAACCACACAGATTGAAGATGTTGCATTAACATGTTGC	1597
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AACCGTGGCAGCAGAATAATAAATAACTACACAGATTGAAGATGTTGCATTAACATGTTGC	2016
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AACCGTGGCAGCAGAATAATAAATAACTACACAGATTGAAGATGTTGCATTAACATGTTGC	1989
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G7ANBS-cDNA2	TGTGATCACTGGGAGCATGTTTTCGAGATGAAACCTCTTGACGACGATCACTCAAGAAAG	1657
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCTGATCACTCAGAACATGTTTTCGAGATGAAACCTCTTGACGAGATCACTCAAGAAAG	2076
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGTGATCACTCAGAACATGTTTTCATGATGAAACCTCTTGATGACGATCACTCAAGAAAG	2049
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G7ANBS-cDNA2	CTATTCTTTAACAGACTTTTTGGTCTGAAAGTGACTGTCCTGAAGAATTCAAACAAGTT	1717
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTATTCTTTAACAGGCTTTTTGGTCTGGAAGTGACTGTCCTGAAGAATTTAAACAAGTT	2136
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTGTTCTTTAACAGACTTTTTGGTCTGGAAGTGACTGCCCTGAAGAATTTAAACAAGTT	2109
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G7ANBS-cDNA2	TCAAATGAAATTGTTGATATATGTGGTGGTTGCCGCTAGCAACAATCAATATAGCTAGT	1777
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCAAATGAAATTGTTGATATATGTGGTGGTTGCCGCTAGCTACGATCAACATAGCTACT	2196
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCAAATGAAATTGTTGATATATGTGGTGGTTGCCGCTAGCTATGATCAACATAGCTAGT	2169
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G7ANBS-cDNA2	CATTTGGCAAACCAACAGCAGGATTAGCACTTGATTGCTGGCATAACATGTTGATTCA	1837
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CATTTGGCAAATCAACAGAAAGCAGTATCACTGGATTCTTGACATACATACGTGATTCCG	2256
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CATTTGGCAAATCAACAGCAGCAGTATCACTGGATTCTTGACATACATACGTGATTCCG	2229
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G7ANBS-cDNA2	CTGAGGTCCCATTCTTGGTCAAGTTCTACCTTGGAAAGAACGAGAAAAGTACTGAACTTT	1897
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTGAGGTCAACATCGTGGTCAAGTTCTGCTTCGAAAGAACAAGACAAGTACTGAACTTC	2316
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTGAGGTCAACATCGTGGTCAAGTTCTACTTCGAAAGAACAAGACAAGTACTGAACTTC	2289
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G7ANBS-cDNA2	AGCTACAATAATCTTCTCAGCATCTGAAGACATGTTGCTGTATTTTCATATGTATCCA	1957
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGCTACAATGATCTTCTCATCATCTGAAGACATGTTGTTGTATCTTCATATGTATCCA	2376
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGCTACAATAATCTTCTCATCATCTGAAGACATGTTGTTGTATCTTCATATGTATCCA	2349
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G7ANBS-cDNA2	GAGGGCTCCAATCTGGAAGGATGATCTGGTGAAGCAATGGGTGGCTGAAGGGTTGTT	2017
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GAGGGCTCCATAGTCTGGAAGGATGATCTGGTGAAGCAATGGGTGGCTGAAGCCCTTCATC	2436
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GAGGGCTCCATAGTCTGGAAGGATGATCTGGTGAAGCAATGGGTGGCTGAAGCCCTTCATC	2409
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G7ANBS-cDNA2	GCTACAGGAAAAGGAAAGAGCAAGATAAAGAAACGACAGAAAACGACGGAATCTAT	2077
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AATACAGGAAAAGGAAAGAAAGATCAAACTGGATGGAGAAAGCTGCAGGAATCTAT	2496
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AATACAGGAAAAGGAAAGAAAGATCAAACTGGATGGAGAAAGCTGCAGGAATCTAT	2469

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G7ANBS-cDNA2      TTTGATGCGCTTGTGATAGAAGATTCAATCAACCTTTATATCAACTACAACAATAAG      2137
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  TTCGATGAACCTTGTGATAGAAGATTCATCCAACCCCTAAATATCAACTACAACAATAAG      2556
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  TTCGATGAACCTTGTGATAGAAGATTCATCCAACCTCTAAATATCAACTACAACAATAAG      2529
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G7ANBS-cDNA2      GTGTTGTCCTGTACAGTTCATGACGTAGTACGTGATCTTATTGCAAAAAGTCTGCAGAA      2197
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  GTGTTGTCATGTACTGTTTCATGAAGTGGTACGTGATCTTCTTGCACACAAGTCTG-----      2611
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  GTGTTGTCCTGTACTGTTTCATGAAGTGGTACGTGATCTTCTTGCACACAAGTCTGCAGAA      2589
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G7ANBS-cDNA2      GAGAATTCATTGGTAGTAGACTACAATTGAAAAATATAGCACTTCCCATAAGGTT      2257
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  -----TGGTAGTAGATTATAATCGAAAGAATATACACTTCTCATAAGGCC      2658
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  GAGAATTCATTGGTAGTAGATTATAATCGAAAGAATATACACTTCTCATAAGGCC      2649
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G7ANBS-cDNA2      CGTCGCTATCTCTCATCTTTGGTGATGCAAAATATGCCAAGACACCAGAAAACATCACA      2317
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  CGTCGGCTATCTCTCTCTTTGCCAATGCAAGTTATGCCAAGACACCTGTAACATCACA      2718
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  CGTCGGCTATCTCTCTCTTTGCCACTGAAGGTATGCCAAGACACCAGTAAACATCACA      2709
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G7A-RTR
G7ANBS-cDNA2      AGGTCACAAGTTCGGTCACTCAGATTTTTGGATTATTCAAGTGATGCCTTGTGTTAGA      2377
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  AAGCGCAGGTCGGTCACTTAATTTGTTGGATTGTCGAGTGCATGCCTTGTATTGGA      2778
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  AAGCCGCAAGTTCGGTCACTTAATTTGTTGGATTGTCGAGTGCATGCCTTGTATTGGA      2769
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G7ANBS-cDNA2      GACTTCAAGGTTCTCCGTGCTCAAACCTTCAACTATCTGGTCATTGTGGGCCCATGAC      2437
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  GAGTTC AAGGTTCTCCGTGTTCTGAACCTTCAACTATCCGGTCATTGTGGGCCCATGAC      2838
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  GAGTTC AAGGTTCTCCGTGTTCTGAACCTTCAACTATCCGGTCATTGTGGGCCCATGAC      2829
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G7ANBS-cDNA2      CCCATAGACCTCACTGGCATTTCAGAGCTGTTTCAGTTAAGATATTTGAAGATACAAGT      2497
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  CCCATAGACCTCACTGGGATTCAGAAGCTGTTTCAGTTGAGATATTTGAAGATTACAAGT      2898
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  CCCATAGACCTCACTGGGATTCAGAAGCTGTTTCAGTTGAGATATTTGAAGATTACAAGT      2889
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G7ANBS-cDNA2      GATATCGCATAAACTACCAAACAGTATACGAGGGCTGCAATGTTGAAAACGCTCGAT      2557
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  GATGTGTGCATAAACTACCAAACAAATGCGAAAGCTGCAATGTTGAAAACGCTGGAT      2958
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  GATGTGTGCATAAACTACCAAACAAATGCGAAAGCTGCAATGTTGAAAACGCTGGAT      2949
*** * ***** ** * ** ***** ** * ** *****

G7ANBS-cDNA2      CTTATGGATGCAACAAGAGTCACTGCTGTTCCATGGGATATTATACATCTCCCACACTTG      2617
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  ATTATAGATGCCAACAGAGTCACTGCTATCCGTGGGATATTATATCTCCCACACTTG      3018

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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATTATAGATGCACCAAGAGTCACTGCTATCCCATGGGATATTATATATCTCCCACTTG	3009
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G7ANBS-cDNA2	TTGCACCTGACTCTCCGGTTGACACAAATCTGCTGGATTGGATAGGCAGCATGACTGAC	2677
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTGCACCTGACGCTTCTGTTGACACAAATCTGCTGGATTGGATTGGCAGCATGACTGGC	3078
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTGCACCTAACCCCTCTCTGTTGACACAAATCTGCTGGATTGGATTGGCAGCATGACTGAC	3069
	***** * * * * *	
G7ANBS-cDNA2	TCAGTCATCAGTCTGTGGACCTTGGCAAGCTGAACTACCTGCAGGATCTTCATCTTAAC	2737
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCCATCATCAGTCTGTGGACCTTGGCAACCTGAACTACCTGCAAGATCTTTATCTTACC	3138
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCCATCATCAGTCTGTGGACCTTGGCAACCTGAACTACCTGCAAGATCTTTATCTTACC	3129
	** * * * * *	
G7ANBS-cDNA2	ATGTCGTGTTCTTCTAC-----TTCTGGGCGTGAAGCTCTGGCTCATTG	2785
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATTTCTTCTACACATCTTCTGGCCATCCAGAGAAAAACATGGAAGCTCTGGGTCTTTA	3198
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATTTCTTCTACACATCTTCTGGCCATCCAGAGAAAAACATGGAAGCTCTGGGTCTTTA	3189
	** * * * * *	
G7ANBS-cDNA2	ATCGGAGGACATGGTAACCTGAAAATATAGTAATGTCTCATGGCTCATCG-----	2836
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTAGGAGGACATGGCAACCTGAAAATATAGTAGTGTCTCATGGCCATTGGTTAAAGAT	3258
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTAGGAGGACATGGCAACCTGAAAATATAGTAGTGTCTCATGGCCATCGGTTAAAGAT	3249
	* * * * *	
G7ANBS-cDNA2	---GTGATTCCTGGCGCTCAAAGCAATAATTTCTGGGATGACTTGAACCTCTCCCC	2893
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATTGTGGTTCCTGGTGCCTCAAAGTAATCATTTCCTGGGATGAGTTGAACTCTCCCA	3318
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATTGTGGTTCCTGGTGCCTCAAAGTAATCATTTCCTGGGATGAGTTGAACTCTCCCA	3309
	** * * * * *	
G7ANBS-cDNA2	CTTCTCCAGAGATTGAATGCTCGCCGACAGCTGCATCATTTCCTCCGAATTCCTAAG	2953
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTTCTCCAGAGATTGAATGCTCGCCGACAGCTGCATCATTTCCTCCGAATTCCTAAG	3378
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTTCTCCAGAGATTGAATGCTCACCGCAGCTGCATCATTTCCTCCGAATTCCTAAG	3369
	***** * * * * *	
G7ANBS-cDNA2	TGGATTAAGAAGTTCACCTGTGCATTCTGAAGATTGCAGTGGTGAAGTGCAGATT	3013
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGGATTAAGAAATGGTAACCTGTGCATTCTGAAGATTGCAGTGGTGAAGTGCAGATG	3438
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGGGTTAAAAAAGTGGTAACCTGTGCATTCTGAAGATTGCAGTGGTGAAGTGCAGATG	3429
	** * * * *	
G7ANBS-cDNA2	AGTTGGTTGATATTCTGAGAGATTGCCTGCCCTCACTGCTCTGTCTGTATGTGCGG	3073
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGTTGTGTGATATTCTCAGAGATTGCCTGCCCTCACTGCTCTGTCTGTATGTGCGG	3498
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGTTGTGTGATATTCTCAGAGATTGCCTGCCCTACTGCTCTGTCTGTATGTGCGG	3489
	***** * * * * *	
	G7-Olig	
G7ANBS-cDNA2	CGTGCGCCATTGAAAGATCACTTCAACAAGGAGCGGTTCTCAGTTCTCAAGTAC	3133

G7ANBS-cDNA2	TCGCCGGATGCTTCGCCTTCCTTGTGACATGCACATCGTCGTCGCCGACGCGCCGAC	3652
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCTCCAGAAGACTTCACCTTCCTGT-----CGAC	4068
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CCTCCAGAAGACTTCACCTTCCTGT-----CGAC	4059
	* * * * * ***** *	****
G7ANBS-cDNA2	CTGCCGTGACCTTCCCATGCTCTGCGCAGGAAGTCCCTTCCTGCATGATTCTTCATG	3712
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATGCGTGCGTACCGTCCATGCTCTCCGTCCAGAGTCCCTTCCTGGATGCCGTCTTCGCG	4128
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATGCGTGCGTACCGTCCGTCTCCGTCCGAGTCCCTTCCTTGATGCCATCTTCGCG	4119
	*** * * * * * * ***** * * ***** * * * * * * * *	
G7ANBS-cDNA2	CGCCGTGCCGTGCCGTGAGGGCAACNNGGCGGACCTCCGGAGCTTCTGGGTGAGA	3772
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CGTCGTGCCGTGAAGGGAGGA--CGACCCGCTGGACCTCCGGAGCTTCTGGGTGAGG	4186
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CGTCGTGCCGTGAAGGGAGGG--CAACCCGCTGGACCTCCGGAGCTTCTGGGTGAGG	4177
	** ***** * ***** ** ***** *****	
G7ANBS-cDNA2	AGATGGAGGTCGGGTACGAGTCATTGCAGCTGGTGTGCTCGAGTACCTGTACACCGGCTGCG	3832
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGGTGGAGGTCGGGTATGAGGCACTGCAGTTGGTGTGCTCGAGTACCTGTACACCGCGCA	4246
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGGTGGAGGTCGGGTATGAGGCACTGCAGTTGGTGTGCTCGAGTACCTGTACACCGGCTGCA	4237
	** ***** * * * * * ***** *****	
G7ANBS-cDNA2	TCGGCGACTTCCCAAGTCGGTGTGCGTCTGCGTGATGTAGATGGCTGCACGCATGTCG	3892
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCCGCGACTTCCCAAGTCAGATGCGTTTGGCGCAGTGGACGGCTGCGCCACGTCG	4306
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCCGCGACTTCCCAAGTCGGCATGCGTTTGGCGCAGACGTTGGACGGCTGCGCCATGTCG	4297
	** ***** * * * * * ***** * * * * * ***** * * * * *	
G7ANBS-cDNA2	GCTGCCACCCGTCATCTCCTTCATGGTGCAGTCTCTTTGCCGATCCACCTCCAGA	3952
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTTGCCTTCCCGCATCTCCTTCATGGCGCAGTTCATTTGCCGATCCATCTTCGAGG	4366
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GCTGCCTCCCGCATCTCCTTCATGGCGCAGTTCATTTGCCGATCCATCTTCAGG	4357
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G7ANBS-cDNA2	TTGCCAAGCTCACCAACTCTCCAGGGGTTGCTTAAAAATTTGCTTTTTCAGATTTT	4012
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTGCGGTGCTCACCAAC-----	4383
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTGCGGTGCTCACCAAC-----	4374
	**** *****	
G7ANBS-cDNA2	ATTTAGTATTTTGTTTTGAAGTTCTGACTTGTGTATCTATGATGTGATAAATTCGT	4072
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	-----	4383
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	-----	4374
G7ANBS-cDNA2	GTCGGTGTACTTGAACATTTTACTATCATAGTGTGTTGCGTTTTTAAATAGCCAAT	4132
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	-----	4383
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	-----	4374

G7ANBS-cDNA2	ACTAAGCCACGTCTTTCCATGCAGTGGCGTCTCCTTGATGTCCTTGATGATGTTGAAGT	4192
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	-----CACTTCCAGCGGCTTCTCCTTGATGTCCTTGATGATGTTGAAGT	4427
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	-----CACTTCCAGCGGCTTCTCCTTGATGTCCTTGATGATGTTGAAGT	4418
	* * ** * ** *****	
G7ANBS-cDNA2	TGATAACCTTCCATTGATCTTATCTGTTGCAAACCTATGCAATAAATCATGCATGAACT	4252
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GGATAACCTTCCATTGATCTTATCTGTTGCAAACCTATGCAATAAATCTTGATGCATCT	4487
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GGATAACCTTCCATTGATCTTATCTGTTGCAAACCTATGCAATAAATCTTGATGCATCT	4478
	***** * **	
G7ANBS-cDNA2	TCTCGAGAGATGCCTTGAGATGGTAGTTCGGTCAAATCTTGACATGATTACTCTTGAGAA	4312
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GCTTGAGAGATGCCTTGAGATGGTAGTCCGGTCAAATCTTGACATGATTACTCTTGAGAA	4547
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GCTCGAGAGATGCCTTGAGATGGTAGTCCGGTCAAATCTTGACATGATTACTCTTGAGAA	4538
	** *****	
G7ANBS-cDNA2	AGCATTGCCTCCAGATATTATCAAGCAAATGCTGATTACGCCTAAGTCTTGGGTTAGT	4372
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGCATTGCCTCCAGATATTATCAAGCAAATGCTGATTACGCCTAAGTCTTGGGTTAAT	4607
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGCATTGCCTCCAGATATTATCAAGCAAATGCTGATTACGCCTAAGTCTTGGACTAGT	4598
	***** * ** * ** * ** * ** * ** * ** * ** * ** * ** * ** * ** * **	
G7ANBS-cDNA2	TTCACCGAAGACAAGGATTTCCTAACAAACATGTAAGAAGGATACTCCAAGCTTTGA	4432
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTCACCAAGGACAACGGATTTCCTAACAAACATGTAAGAAGGATATTCGGAGCTCTCGA	4667
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTCACCGAAGATAAGGATTTCCTAACAAACATGTAAGAAGGATACTCAGAGCTTTGA	4658
	*** ** * ** * ** ***** ** *****	
G7ANBS-cDNA2	CAGTAATGATGCGGAGGTAGCGAGATCCTGCACCAGGAAGGCAGACTAATCTTGATGA	4492
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTCTTATGATGCGGAGGTAGTGAGTTGCTACTCTACGAAGGCAGACTAATCTTGATGA	4727
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTCTGATGATGTGTTAGTGAGGATGCTGCTCAAAGAAGGCAGACTAATCTTGATGG	4718
	* ***** * ** * ** * ** * ** * ** * ** * ** * ** * ** * ** * ** * **	
G7ANBS-cDNA2	TGCGTTGCGTGCACATGCTGTTGAACATTGTGACTCAAAGATCATAACAGAAATTTT	4552
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGCATTTGCATTGCACATGCTGTAGAACATTGTGACCCAAAGATCACAACAGAATTCT	4787
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGCATTTGCATTGCACATGCTGTAGAACATTGTGACTCGAAGTCAATGGAATTCT	4778
	*** ***** ***** ***** ***** * ** * ** * ** * ** * ** * ** * **	
G7ANBS-cDNA2	GGACATCACACTGCAGATGTTAATCATAGAAATCCTAGAGTTATACTGTTCTTCACAT	4612
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GGACCTCGAACTGCAGATGTTAATCGTAGAAATCAAAGAGTTATACTGTTCTTCACAT	4847
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GGATATCGGACTGCAGATGTTAATCATAGAAATCAAAGAGTTATACTGTTCTTCACGT	4838
	*** ** ***** ***** ***** ***** ***** * ** * ** * ** * ** * ** * ** * **	
G7ANBS-cDNA2	TGCTGCCAGGCGAAGAGATCCCAAATCTTGCTCTCTTTAACCAAGGGTGCCTGGCC	4672
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGCTGCCAGGCGAAGAAATCTTAAATCTTGCTCTCTTTAACCAAGGAGCTCGGCC	4907
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGCTGCCAGGCGAAGAGATCTTAAATCTTGCTCTCTTTAACCAAGGTGCCTGGCA	4898

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G7ANBS-cDNA2          TTCCGATCTTACATTTGATGGAAGAAGCAGTTCAAATCTCAAAAGACTCACAAAACA 4732
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  TTCCGATCTTACATTTGATGGAAGAAAAGCAATACAAATCTCAAAGAGACTCACAAAACA 4967
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  TTCTGATCTTACATTTGATGGAAGAAAAGCAGTTCAAATCTCAAAGAGACTCACAAAACA 4958
***** **

G7ANBS-cDNA2          TAGGGATTACTTTGGGGTTACTGAAAAAGGAAATCGTCTCCTCAAGATCGGTTATGCAT 4792
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  TGGGGATTACTTTGGGGTTACTGAAAGAGGAAAACCGTCTCTGAATATAGTTTATGCAT 5027
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  TGGGGATTACTTTGGGGTTACTGAAAGAGGAAAACCGTCTCTGAAGATAGGTTATGCAT 5018
***** **

G7ANBS-cDNA2          TGAGATACTAGAGCAAGCTGAAAGAAAAGC---ACAACCTGGAGAAGAATGAGTTTCTGT 4849
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  TGAGATACTGGAGCAAGCTGAAAGAGGGGTCACAACCTGGAGAAGCATCGGTTTCTCT 5087
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  TAAGATACTGGAGCAAGCTGAAAGAGGGATCCACAACCTGGAGAAGCATCGGTTTCTCT 5078
***** **

G7ANBS-cDNA2          TGAAATGGCCGGTGACGGTCTATGTGAAAGTTGTTGACCTTTGAAAACAGGTTCTT 4909
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  TGCAATAGCTGGTGACTGTCAACGTGGGACGCTGTTGCACCT-CGAAAATCGAGTACTT 5146
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  TGCAATAGCTGGTGACCGTCAACGTGGAAGCTGTTGACCT-CGAAAATCGAGTGTCT 5137
***** **

G7ANBS-cDNA2          TGATGAAAATACTTTCCGATTGAGGCAACAGTAGCAATGAAAATCCTCAAGTGAATG 4969
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  TGATGAGGATAATGTTTCCAACCTGAGGCAAGAGTAGCAATGGACATCGCTCAAGTGGATT 5206
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  TGATGAGGATAATGTTTCCAACCTGAGGCAAGAAATAGCAATGGACATCGCTCAAGTGGATT 5197
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G7ANBS-cDNA2          GTACTTTGGAATTTACTTTTGATTCTAGTCCAAATCCACATCTGGAGATACGATGGCCAA 5029
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  GCACCTTTGGAGTTAACCTTGATTCTGAGGCAAAACCTCCTTCGGAGAAGAAGTGGCAA 5266
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  GTACTTTGAAGTTAACCTTGATTCTGGGGCAAAACCTCCTTCGGAGAAGAAGTGGCAA 5257
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G7ANBS-cDNA2          CCGTTGATCTAAATGAATTTTCTTTCGAAACGAACGATGCACACTTGACTCGGCTGAGAG 5089
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  CCATTGATCTAAATGAAACTCGTTTCCAAATGAATGACGAACACTTAGCTCGGATGAGTG 5326
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  CCATTGATCTAAATGAAACTCCTTCCATATGAATGAAGAACAACCTTAGCTCGGATGAGTA 5317
***** **

G7ANBS-cDNA2          CCCTCTCCAAAACAGGTCACACTCGGCAACGCTTCTCCCATGTTGTTGGAATGTGCTG 5149
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  CCCTCTCAAACAGT-TGAACCTGTAAACGCTTCTTCCGCGTTGTTCAAATGTCATA 5385
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1  CCCTCTCCAAAACAGT-TGAACCTGTAAACGCTTCTTCCGCGTTGTTCAAATGTGATA 5376
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G7ANBS-cDNA2          AAGAAGATCATGGATGATGAATCTGAGCTGGATTCCATCGGAAGAGACACATCCACCGAG 5209
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1  GACAAGATTATGAATGATGAACCTGAGCTGGCTTCCCTTCAAAGAGACACATCCACCGAG 5445

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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1   GACAAGATTATGGATGATGAACCTGAGCTGGCTCCTCTTCAAAGAGACGCATCCACCGAG   5436
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G7ANBS-cDNA2                               AGGAAGCGGAGGTTCCATGAGCTGCAGGACTTGCTTCAGAAGGCATTACGCGAGGATAAG   5269
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1   AGGAATCGGAGGTTCCGTTGACATGCACGACACGCTTCAGAAGGCATTACGCGAGGACAAG   5505
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1   AGGACTCGGAGGTTCCGTTACCTGCAGGACGCGGTTTCAGAAGGCATTAAGCGAGGACAAG   5496
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G7ANBS-cDNA2                               GAGTCGTCTAGTTTGACAAGTCTCAGGTATAGCTCGAATGCCGACGGGTGACATGAAAAG   5329
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1   GGTTCGTCTAGTTTGACAAATCTGGGTCATAG-----                         5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1   GCTAGTTT-----TGACAAATCTGGGTCATAG-----                         5523
*   *           *   ***
G7ANBS-cDNA2                               CAGCCAGAAATGCATGCTGGGTTATACCGTTATACTAGTACTATATCAGATTGGAGTAC   5389
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1   -----                         5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1   -----                         5523
G7ANBS-cDNA2                               GACTGGAAAGCAGCCAGATATTCAGATTGTCCTTTTATAAAAAGAAAATTTTCAGGTGAA   5449
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1   -----                         5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1   -----                         5523
G7ANBS-cDNA2                               ATTAATCTAGAACTCGGTTCTCTCTCGGATCGAACCTTCTACAAACTGCAAGCAGCCGA   5509
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1   -----                         5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1   -----                         5523
G7ANBS-cDNA2                               TTGTTTGGAACTGCAGTTATCATTTAACGCCAGAACATGTTTCATGGCATGTGCTGTCTT   5569
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1   -----                         5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1   -----                         5523
G7ANBS-cDNA2                               TTCTCTGTTCTGCACCTTTGAGGTGATGCTGTTGTGTAATTCAGCAACTAGTACAAAT   5629
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1   -----                         5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1   -----                         5523
G7ANBS-cDNA2                               TTGTGGAACTGTAGCTGGTACGTAGTAGTATAATTCAGTTCACACCGAAATGCGC   5689
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1   -----                         5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1   -----                         5523
G7ANBS-cDNA2                               TACTGATAGACCAGCGTGTGAGTCAATTCGGCATGCTCAACTAATTCTTCTTGGCATGT   5749
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1 ----- 5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 ----- 5523

G7ANBS-cDNA2 ACTATTTCGAGTTAGGTCCCTAGCTATGCGTATGGGACGAGTGGAATAAATATGTCTCACT 5809
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1 ----- 5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 ----- 5523

G7ANBS-cDNA2 TGTCATACGGTAGCTCTCCCATATGACAAGTGAGATATATTTATTTTGTCTTTTTTTTC 5869
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1 ----- 5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 ----- 5523

G7ANBS-cDNA2 TTCAGGTTTATTGA 5884
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1 ----- 5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 ----- 5523

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2. 7AS_TGACv1_569068_AA1806240.1(7A 前半段 1-2646bp)与 4AL 与 7DS 比对。

CLUSTAL O(1.2.4) multiple sequence alignment

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TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1 ATGGGTCGGTCGCCATCTCCACCGGTGTCGCCGGCGTGAAGAAGGCCCGTGGACGGTA 60
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1 ATGGGGAGGTCAACCGTCTGCGGTAGTGAGGCCCCGTCGAAGAAGGCCCGTGGACGGAG 60
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 ATGGGGAGGTGCGCGTCTGCAGCAGTGAGCCCCCCTTGAAGAAGGCCCAATGGACGGAG 60
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GAGGAGGATATACTGCTCATAAATACTTCCAGAGGCATGGCAACGGCGCAACTGGCGA 120
GAGGAGGACAGGCTGCTGTGGACTACATCAAGTTGCATGGCACC GGCGCAACTGGCGA 120
GAGGAGGACAGGCTGCTGTGGACTACATCAAGTTGCATGGCACC GGCGCAACTGGCGA 120
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ACCTTGCCCAGTGCGCCGCCCTGAACCGCTCCGGCAAGAGCTGCCGCTCCGCTGGACC 180
ACCATCCCAAGCGCGCTGCCCTCAACCGCTGCGGCAAGAGCTGCCGCTCCGTTGGACC 180
ACCATCCCAAGCGCGCGCCTCAACCGCTGCGGCAAGAGCTGCCGCTCCGTTGGACC 180
*** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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AACTACTCCACCCGACATCAAGCGCGGACCTTACCAGCAGTGGGAGAAAAACCACC 240
AACTACTCCACCCGACATCAAGCGCGGACCTTACCAGCAGTGGGAGAAAAACCACC 240
***** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
ATACACTCCACTCCATTCACGGGAACAAGTGTGCGGATCGCGACTATTGCCGGG 300
ATCCACTCCACTCCATGCTCGGCAACAAGTGTGCGGATTGCAACCCATGCGGGGA 300
ATCCACTCCACTCCATGCTCGGCAACAAGTGTGCGGATTGCAACCCATGCGAGGA 300

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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 AGGACAGGCAATTTTATCAAGAATTACTGGAACACAAACCTGCGCAAGAAGCTGCCAC 360
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1 ATGGGCATCGACCCCATCAGCAGACCCCGCGCGGACCTCAGCCAGCTTACAGGGCTC 420
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1 CCCAGTCTCCCCGCCACCGCCCGCCCCAGTAATAGCCTCTC---CGGCGTCAGCATG 477
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 CCCAGTCTCCCCGCCACCGCCCGCCCCAGTAATAGCCTCTC---CAGCGTCAGCATG 477
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1 GGCCCCAGCGCCTGGGACATGAATGCTGTCCAGGCCACGCGGACGTGGCCAGCTTCGCC 537
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 CCCCCAGCACCTGGGACATGAATGCTGCCAGGCCACGCTGACGTGGCCAGCTTCGCC 537
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TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1 GGGAGCAGCTCGGACATGAACACTCTCGGGATCAAGGACAAAGCCAGCTTCGCCGGG 573
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1 GGGGGCGGCTCGGACATGAACACTCTCAGGATCAAGGACGAAGCTACCAGCTTCACGGC 597
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 GGGGGC-----GGTCTCAGGATCAAGGACGAAGCTACCAGCTTCACCGGC 582
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1 ---AGCTACTCAGACATGAAACCTCCCAGGATCAAGGATGAAGCCAGCAGCTTCACGGT 654
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 ---AGTTACTCAGACATGAAACCTCCTATGATCAAGGATGAAGCCAGCAGCTTACCGGC 639
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 AGTCACTCGGAACTGAAACCTCCCAGGATCAAGTACGAAGCCAGCTTACCGGTAGC 699
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TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1 TACTCGAAGATGAAACCTTTCAGGATCAAGGACGAAGCACTCAGCTTCACTGGCAGTAC 753
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1 CACTCGGACATGAAACCTCACAGGATCAAGGACGAAGCCGCGCAGCTTCACTGGCAGACAC 759
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1 TCGGACATGAAACCTCTCAGGATCAAGGACGAAGCCGCTTCTCACCGGACGCTACTCG 834

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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GACAGGAAACCTCCAGGATCCAGGACGAAG-----GCAGTACTCAGGC	879
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GACAGGAAACCTCCAGGATCCAGAACGAAG-----GCAGTACTCAGGC	864
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GCTGTTGCTGGCTGGGACATGAACACTCTCCATGTCCAGCCCAACCCGCCAAGTTC	939
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GCTGTTGCTGGCTGGGACATGAACACTCTCCATGTCCAGCCCAACCCGCCAAGTTC	924
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CATCTCTCCAGGCCATTGTTGGGTGATCAGTCTCCTTGGGCGCCATGAGAGCTCTT	999
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CATCTCTCCAGGCCATTGTTGGGTGATCAGTCTCCTTGGGCGCCATGAGAGCTCTT	984
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTTGGGAAGCTGGACGTGCTGCTAGATGATTTCATCTCAGAAATCTTCTCCAAG	1059
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTTGGGAAGCTGGACATGCTGCTAGATGATTTCATCTCAGAAATCTTCTCCAAG	1044
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GATGAACTGTCAGAGGTGATGACCATCCCAATAGCCATGTGCTGGATGAATGAGGCG	1179
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GATGAACTGTCAGAGGTGATGACCATCCCAATAGCCATGTGCTGGATGAATGAGGCG	1164
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CGTGATCTGCTTACGACATGGAGATTACATTGACAGCCTTTT---ATCTGTGCCACCT	1236
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CGTGACCTGCTTACGACATGGAGATTACATTGACAGCCTTTT---ATCTGTGCCACCT	1221
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GACCATTTCAACAAAACAAGAAGAAGAAAAACAAGAAGATGATGACCATAAAGAAGAGG	1281
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTCAAAATGGTACAAAACAGATCACATACGTATGCAAGTGTGAGAACATGGTGTCAAGACC	1341
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGCAAACGCATTTCATGTTACTGTTGTCCCTCTTCCCAAGAAGCCCAAGATTGCGGAA	1401
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ACAATTCAGATTCAGGATCTATGTCCAGGAGCTATTGAACGGTATGACAGATATAAT	1461
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTCCATTGTTGCAGCAACTTGAGGAGAGCTACATTCTGTCCACTGGCCATATGCTTCCA	1536
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTCCATTGTTGCAGCAACTTGAGGAGAGCTACATTCTGTCCACTGGCCATATGCTTCCA	1521
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATGCACTATGAAGAAACCAATGATCAGTTGTAATGATGGCCGTATGAATGAGTTTATC	1581
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GACTCACTGGTGG-----CAGATCAGCAGCAGCTCAAGTGGTATCTGTCCTT	1629
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GGATTTGGATGTCTGGGTAAAACACTTGCCTGCAAAAGTGTGACAAAAGAAATGGGATG	1689
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CAATTGATTGCAGAGCTTTCATTCGGATGCCAAAAGCCGGATATGCAGATACTTTTC	1776
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CAATTGATTGCAGAGCTTTCATTCGAGTGTCCAAAAGCCTGATATGCAGATACTTTTC	1749
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGCGACTGTTCTCACAACCTCCACAGAAAAGCGGCCAATACATGCCAATTCTAATGAG	1809
	* * * ***** ***** ** * * * * * ***** *****	

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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTGTTGCTCTGTACTGTTCAAGTGGTACGTGATCTTCTTGCACACAAGTCTG-----	2611
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTGTTGCTCTGTACTGTTCAAGTGGTACGTGATCTTCTTGCACACAAGTCTGCAGAA	2589
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	-----TGGTAGTAGATTATAATCGAAAGAATATATCACTTTCTCATAAGGCC	2658
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GAGAAATTCATTGTGGTAGTAGATTATAATCGAAAGAATATATCACTTTCTCATAAGGCC	2649
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CGTCGGCTATCTCTCTCTTGGCAATGCAAGTTATGCCAAGACACCTGTAAACATCACA	2718
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CGTCGGCTATCTCTCTCTTGGCAATGCAAGTTATGCCAAGACACCTGTAAACATCACA	2709
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TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATTATAGATGCACCAAGAGTCACTGCTATCCCGTGGGATATTATATATCTCCCACACTTG	3018
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TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTGCACCTAACCTTCCTGTTGACACAAATCTGCTGGATTGGATTGGCAGCATGACTGAC	3069
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCCATCATCAGTCTGTGGAGCCTTGGCAACCTGAACTACCTGCAAGATCTTTATCTTACC	3138
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCCATCATCAGTCTGTGGAGCCTTGGCAACCTGAACTACCTGCAAGATCTTTATCTTACC	3129
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATTCTTCTACACATCCTTCTGGCCATCCAGAGAAAACATGGAAGCTCTGGGTCTTTA	3198
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATTCTTCTACACATCCTTCTGGCCATCCAGAGAAAACATGGAAGCTCTGGGTCTTTA	3189
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTAGGAGGACATGGCAACCTGAAAATTATAGTAGTGTCTCATGGCCATTGGTTAAAGAT	3258
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTAGGAGGACATGGCAACCTGAAAATTATAGTAGTGTCTCATGGCCATCGGTTAAAGAT	3249
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATTGTGGTTCCTGGTGCCTCAAAAGTAATCATTCTGGGATGAGTTGGAACCTCTCCA	3318
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATTGTGGTTCCTGGTGCCTCAAAAGTAATCATTCTGGGATGAGTTGGAACCTCTCCA	3309
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTTCTCCAGAGATTGAATGCTCGCCACACAGCTGCGTCATATTTCCCGAATTCCTAGG	3378
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTTCTCCAGAGATTGAATGCTCACCGCACAGCTGCGTCATATTTCCCGAATTCCTAAG	3369
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGGATTA AAAACATGGTAACTTGTGCATTCTGAAGATTGCAGTGGTGGAACTGCAGATG	3438

TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGGGTAAAAAACTGGTAACTTGTGCATTCTGAAGATTGCAGTGGTGAACGCAGATG	3429
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGTTGTGTGATATTCTCAGAGGATTGCCTGCCCTCACTGCTCTGTCGCTGTATGTGCGG	3498
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGTTGTGTGATATTCTCAGAGGATTGCCTGCCCTTACTGCTCTGTCGCTGTATGTGCGG	3489
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGCGCGCTGCTCAAAGGATCCTTTGACAAGATGGCCGGTTTTCAGTTCTCAAGTAC	3558
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGCGCGCTGCTCAAAGGATCCTTTGACAAGATGGCCGGTTCTCAGTTCTCAAGTAC	3549
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTCAAGTTGAGGTGCACGAGTGGTATCCCATGGCTGAAATTTGAGGCGGATGCAATGCCT	3618
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTCAAGTTGAGGTTACGAGTGGTATCCCATGGCTGAAATTTGAGGCGGATGCAATGCCT	3609
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AACCTCTGGAAGCTGAAGCTAGGTTTCAATGCAATCCCCGAATGGACCAACATCAACTA	3678
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AATCTCTGGAAGCTGAAGCTGGGTTTCAATGCAATCCCCGAATGGACCAACATCAACTA	3669
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATCTGCATCGAGCATATCCAGACCTTAAAGAGATCTCTGTAAAAATTTGGGGGTAGCT	3738
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATCCGCATCGAGCATATGCCAGACCTTAAAGAGATCTCTGTAAAAATTTGGGGGTATAGCT	3729
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GCTCTTAGAGTATGCCGTGAAGACTGTCATTAGTAATCATCTGAGAAATCCTAGAGTC	3798
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GCTCTTAGAGTATGCCGTGAAGACGGTCATTAGTAATCATCTGAGAAATCCTAGAGTC	3789
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CATGTGTGTTTGGTGACTTCTACTTTCTATGGTGCAGAGGACAAAAAGAGAAACCTCCC	3858
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CATGTGTGTTTGGTGACTTCTACTTCTATGGTATGAAAGCACAAAAAGAGAAACCTCCC	3849
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ACCAACTCGGCGATCAAGTCGCGCATGGCCGCCACAACCCAATGGAGACTCCGACCAGC	3918
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ACCAACTCGGCGGTGAGTCGCACATGGCCCGCAACGTCAACGGAGACTCCGACCAGC	3909
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646

TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CACGTCACCACCGCCTTCGCCACTGCAACAGTGTCTCGACAGAGGGTGTCTGCTTCC	3978
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CAGGTCACCACCGCCTTCGCCACTGCGACAGTGTCTCGACAGAGGGTGTCTGCTTCC	3969
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GGGGACGAGATGTGGAGACGCTCTGCCACCTCTCCGACAATCTCGCCACCGCCTTTCGC	4038
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GGGGACGAGATGTGGAGACGCTCTGCCACCTCTCCAACAATCTCGCCACCGCCTTTCGC	4029
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCTCAGAAGACTTCACCTTCCTTGTCGACATGCGTGCGTACCGTCCATGCTCTCCGTC	4098
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CCTCAGAAGACTTCACCTTCCTCGTCGACATGCGTGCGTACCGTCCGTCGCTCTCCGTC	4089
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CAGAGTCCCTTCCTGGATGCCCTTCGCGCGTGTGCGCGTGAAGGGGAGGACACCG	4158
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CGGAGTCCCTTCCTTGATGCCATCTTCGCGCGTGTGCGCGTGAAGGGGAGGCAACCG	4149
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTGGACTCCGGGAGCTTCTGGGTGAGGAGGTGGAGTTCGGGTATGAGGCACTGCAGTTG	4218
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTGGACTCCGGGAGCTTCTGGGTGAGGAGGTGGAGTTCGGGTATGAGGCACTGCAGTTG	4209
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTGCTCGAGTACCTGTACACCGCCGCATCCGCGACCTTCCCAAGTCAAGTGCAGTTTGC	4278
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTGCTCGAGTACCTGTACACCGGCTGCATCCGCGACCTTCCCAAGTCCGATGCAGTTTGC	4269
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GCCGACGTGGACGGCTGCGCCACGTCGGTTGCCTTCCCGCATCTCCTTCATGGCGCAG	4338
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GCAGACGTGGACGGCTGCGCCATGTCGGCTGCCCTCCCTGCCATCTCGTTTCATGGCGCAG	4329
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTCATCTTTGCCGCATCCATCTTCGAGGTTGCGGTGCTCACCACCACTTCCAGCGGCTT	4398
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTCATCTTTGCCGCATCCATCTTCAGGTTGCGGTGCTCACCACCACTTCCAGCGGCTT	4389
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTCCTTGATGTCCTTGATGATGTTGAAGTGGATAACCTTCCATTGATCTTATCTGTGCA	4458
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTCCTTGATGTCCTTGATGATGTTGAAGTGGATAACCTTCCATTGATCTTATCTGTGCG	4449

TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AACCTTATGCAATAAATCTTGATGCATCTGCTTGAGAGATGCCTTGAGATGGTAGTCCGG	4518
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AACCTTATGCAATAAATCTTGATGCATCTGCTCGAGAGATGCCTTGAGATGGTAGTCCGG	4509
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCAAATCTTGACATGATTACTCTTGAGAAAGCATTGCCTCCAGATGTTATCAAGCAAATT	4578
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCAAATCTTGACATGATTACTCTTGAGAAAGCATTGCCTTCAGATATCATCGAGCAGATT	4569
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ACTGACTCGGGATAAGTCTTGGGTAATTCACCCAAGGACAACGGATTTCCTAACAAA	4638
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ACTGATTCACGGCTAAGTCTGGACTAGTTTCACCCGAAGATAAGGGATTTCCTAACAAA	4629
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CATGTAAGAAGGATATTCGGAGCTCTCGATTCTTATGATGTGGAGCTAGTGAGGTGCTA	4698
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CATGTAAGAAGGATACTCAGAGCTCTTGATTCTGATGATGTGTGTTTAGTGAGGATGCTG	4689
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTCTACGAAGGGCAGACTAATCTTGATGATGCATTGTCATTGCTGTAGAACAT	4758
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTCAAAGAAGGGGGACTAATCTTGATGGTGCATTGTCATTGCACCATGCTGTAGAACAT	4749
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGTGACCCAAGATCACACAGAAGTCTTGACCTCGAACTTGCAGATGTTAATCGTAGA	4818
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGTGACTCGAAGGTCACAATGGAAGTCTGGATATCGGACTTGCAGATGTTAATCATAGA	4809
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AATCAAAGAGGTATACTGTTCTCACCATTGCTGCCAGGCGAAGAAATCCTAAAATCTT	4878
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AATCAAAGAGGTATACTGTTCTCACCATTGCTGCCAGGCGAAGAGATCCTAAAATCTT	4869
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTCTCTGTTTTAACCAAGGAGCTCGGCCTCCGATCTTACATTTGATGGAAGAAAAGCA	4938
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTCTCTGTTTTAACCAAGGTGCTCGGCATTCTGATCTTACATTTGATGGAAGAAAAGCA	4929
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATACAAATCTCAAAGAGACTCACAAAACATGGGGATTACTTTGGATTACTGAAGAAGGA	4998
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTTCAAATCTCAAAGAGACTCACAAAACATGGGGATTACTTTGGATTACAGAAGAAGGA	4989

TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AAACCGTCTCCTGAATATAGTTTATGCATTGAGATACTGGAGCAAGCTGAAAGAAGGGGT	5058
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AAACCGTCTCGTGAAGATAGGTTATGCATTAAGATACTGGAGCAAGCTGAAAGAAGGGAT	5049
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CCACAACCTGGAGAAGCATCGGTTTCTCTTGCAATAGCTGGTGACTGTCAACGTGGGACG	5118
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CCACAACCTGGAGAAGCATCGGTTTCTCTTGCAATAGCTGGTGACCGTCAACGTGGAAG	5109
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTGTTGCACCTCGAAAATCGAGTTACTTTGATGAGGATAATGTTTCCAACCTGAGGCAAGA	5178
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTGTTGTACCTCGAAAATCGAGTTGCTTTGATGAGGATAATGTTTCCAACCTGAGGCAAGA	5169
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTAGCAATGGACATCGCTCAAGTGGATTGCACCTTGGAGTTAACCCCTTGATTCTGAGGCA	5238
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATAGCAATGGACATCGCTCAAGTGGATTGTACTTTGAAGTTAACCCCTTGATTCTGGGGCA	5229
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AAACCTCCTTCGGAGAAAGAGTGGCAACCATTGATCTAAATGAAACTCGTTTCCAAATG	5298
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AAACCTCCTTCGGAGAAAGAACTGGCAACCATTGATCTAAATGAAACTCCTTTCCATATG	5289
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AATGACGAACACTTAGCTCGGATGAGTGCCCTCTTCAAACAGTTGAACTCTGTAAACGC	5358
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AATGAAGAACACTTAGCTCGGATGAGTACCCCTCTCAAACAGTTGAACTCTGTAAACGC	5349
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTCCTTCCGCGTTGTTCAAATGTATAGACAAGATTATGAATGATGAACCTGAGCTGGCT	5418
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTCCTTCCGCGTTGTTCAAATGTATAGACAAGATTATGAATGATGAACCTGAGCTGGCT	5409
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCCCTTCAAAGAGACACATCCACCGAGAGGAATCGGAGGTTCCGGTGACATGCACGACAG	5478
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CCTCTTCAAAGAGACATCCACCGAGAGGACTCGGAGGTTCCGGTTACCTGCAGGACGCG	5469
TRIAE_CS42_7AS_TGACv1_569068_AA1806240.1	-----	2646
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTTCAGAAGGCATTACGCGAGGACAAGGGTTCGTCTAGTTTTGACAAATCTGGGTCATAG	5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTCAGAAGGCATTAAGCGAGGACAAGGCTAGTTT-----TGACAAATCTGGGTCATAG	5523

3. 7AS_TGACv1_569068_AA1806230.1 (7A 的后半段约 3000-5000bp) 与 4AL 和 7DS 比对

CLUSTAL O (1.2.4) multiple sequence alignment

TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATGGGGAGGTCACCGTCTGCGGTAGTGAGCCCCCGTCAAGAAGGGCCCGTGGACGGAG	60
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATGGGGAGGTCGCGTCTGTCAGCAGTGAGCCCCCTTGAAGAAGGGCCCATGGACGGAG	60
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GAGGAGGACAGGCTGCTCGTGGACTACATCAAGTTGCATGGCACCGGCGGCAACTGGCGA	120
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GAGGAGGACAGGCTGCTCGTGGACTACATCAAGTTGCATGGCACCGGCGGCAACTGGCGA	120
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ACCATCCCCAAGCGCGCTGGCCTCAACCGCTGCGGCAAGAGTGCCGCCTCCGTTGGACC	180
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ACCATCCCCAAGCGCGCGCCCTCAACCGCTGCGGCAAGAGTGCCGCCTCCGTTGGACC	180
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AACTACTCCACCCCGACATCAAGCGCGGACCCCTCACCGAGATGAGGAGAAAACCACC	240
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AACTACTCCACCCCGACATCAAGCGCGGACCCCTCACCGATGAGGAGGAGAAAACCACC	240
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATCCACTCCACTCCATGCTCGGCAACAAGTGGTCGGCGATTGCAACCCATCTGCCGGA	300
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATCCACTCCACTCCATGCTCGGCAACAAGTGGTCGGCGATTGCAACCCATCTGCCAGGA	300
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGGACAGGCAATTTTATCAAGAATTACTGGAACATGAACCTGCGCAAGAAGCTACTCCAC	360
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGGACAGGCAATTTTATCAAGAATTACTGGAACACAAACCTGCGCAAGAAGCTACTCCAC	360
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATGGGCATCGACCCATCAGGCACAGCCGCGCGCGACCTAGCCAGCTTACAGGGCTC	420
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATGGGCATCGACCCATCAGGCACAACCCGCGCAGCCAGCTAGCCAGCTTACAGGGCTC	420
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CCCAGTCTCCCCGCCACGCGCGCCCGCCAGTAATAGCCTCTCCGGCGTCAGCATGGGC	480

TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CCCAGTCTCCCCGCCACCGCCGCGCCCCAGTAATAGCCTCTCCAGCGTCAGCATGCCC	480
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CCCAGCGCTGGGACATGAATGCTGCCAGGCCACGCGACGTGGCCAGCTTCGCCGGG	540
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CCCAGCACCTGGGACATGAATGCTGCCAGGCCACGCTGACGTGGCCAGCTTCGCCGGG	540
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GGCGGCTCGGACATGAACACTCTCAGGATCAAGGACGAAGCTACCAGCTTACCGGCAGC	600
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GGC-----GGTCTCAGGATCAAGGACGAAGCTACCAGCTTACCGGCAGT	585
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TACTCAGACATGAAACCTCCAGGATCAAGGATGAAGCCAGCAGCTTACCGGTAGCCAC	660
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TACTCAGACATGAAACCTCCTATGATCAAGGATGAAGCCAGCAGCTTACCGGCAGTCAC	645
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCGGAAATGAAACCTCCAGAATCAAGTACGAAGCCGCCAGCTTAATCAGTAGCCACTCG	720
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCGGAACTGAAACCTCCAGGATCAAGTACGAAGCCACTAGTTTACCGGTAGCCACTCG	705
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GACATGAAACCTCCAGGATCAAGGACGAAGCCGCCAGCTTCACTGGAAGACACTCGGAC	780
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GACATGAAACCTCACAGGATCAAGGACGAAGCCGCCAGCTTCACTGGCAGACACTCGGAC	765
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATGAAACCTCTCAGGTC AAGGACGAAGCCGCTGCTTACCGGCAGCTACTCGGACAGG	840
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATGAAACCTCTCAGGATCAAGGACGAAGCCGCCAGCTTACCGGCAGTTGCTCGGACAGG	825
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AAACCTCCAGGATCCAGGACGAAGGACGCTACTCAGGCGCTGTGCTGGTGGGACATG	900
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AAACCTCCAGGATCCAGAACGAAGGACGCTACTCAGGCGCTGGTGTGTTGGGACATG	885
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AACACTCTCTCCATGCTCCAGCCCAACCCGCAAGTTCCATCTCCTCCAGGGCCATTGT	960
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AACACTCTCTCCATGGCCAGTCCAACGCCCAAGTTCCATCTCCTCCAGGGCCATTGT	945
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0

TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGGGTGATCAGTGCTTCCTTGGGCGCCATGAGAGCTCTTGTGGGAAGCTGGACGTGCTG	1020
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGGGTGATCAGTGCTTCCTTGGGCGCCATGAGAGCTCTTGTGGGAAGCTGGACATGCTG	1005
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTGCTAGATGATTCATCTTCTCAGAAAATCTTCTCCAAGAGGGTGATGGATGGGTGCGC	1080
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTGCTAGATGATTCATCTTCTCAGAAAATCTTCTCCAAGAGGGTGATGGATGGGTGCGT	1065
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTCCTCAAAGATGATGTGGAAGAGCTAAGCTCCTACCTTGATGAAGTGCAGAGGTGGAT	1140
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTCCTCAAAGATGATGTGGAAGAGATAAGCTCCTACCTTGATGAAGTGCAGAGGTGGAT	1125
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GACCATCCCCAATAGCCATGTGCTGGATGAATGAGGCGCGTGATCTGTCTACGACATG	1200
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GACCATCCCCAATAGCCATGTGCTGGATGAATGAGGTGCGTGACCTGTCTTACGACATG	1185
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GAGGATTACATTGACAGCCTTTTATCTGTGCCACCTGACCATTCAACAAAAACAAGAAG	1260
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GAGGATTACATTGACAGCCTTTTATCTGTGCCACCTGACCATTCAACAAAAACAAGAAG	1245
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AAGAAAAACAAGAAGATGATGACCATAAAGAAGAGGCTCAAATGGTACAAACAGATCACA	1320
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AAGAAAAACAAGAAGATGATGACCATAAAGAAGAGGCTCAAATGGTACAAACAGATCACA	1305
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TACGTCACGCAAGTGTGCAACATGGTGTCAAGACCAGCAAACGCGTTCATGTTAGTGTT	1380
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TACGTCATGCAAGTGTGCAACATGGTGTCAAGACCAGCAAACGCGTTCATGTTAGTGTT	1365
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTCCCTCGTCTTCCCAAGAAGCCAAGATTGCGGAAACAATTCAGATTCAGGATCTAT	1440
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTCCCTCGTCTTCCCAAGAAGCCAAGATTGCGGAAACAATTCAGATTCAGGATCTAT	1425
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTCCAGGAGGCCATTGAACGGTACGATAGATATATGCTCCATTGTTGCAGCAACTTGAGG	1500
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTCCAGGAGGCTATTGAACGGTATGACAGATATAATCTCCATTGTTGCAGCAACTTGAGG	1485

TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGACGTACATCTTGTCCACTGGCCATATGCTTCCAATGCACTATGAAGAAACCAATGAT	1560
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGACGTACATCTTGTCCACTGGCCATATGCTTCCAATGCACTATGAAGAAACCAATGAT	1545
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CATGTTGTAATTGATGGCCGGATGAATGAGTTTATCGACTCACTGGTGGCTGATATTGTG	1620
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CACGTTGTAATTGATGGCCGGATGAATGAGTTTATCGACTCACTGGTGG-----	1594
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GCAGATCAGCAGCAGCTCAAGTGGTATCTGTCCTTGGATCTGGATGTCTGGGTAATACT	1680
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	-CAGATCAGCAGCAGCTCAAGTGGTATCTGTCCTTGGATTTGGATGTCTGGGTAATACT	1653
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ACACTTGCCAAAAGTGTGTACAACAGAATTGGGATACAATTGATTGCAGAGCTTTCATT	1740
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ACACTTGCCAAAAGTGTGTACAACAGAATTGGGATGCAATTGATTGCAGAGCTTTCATT	1713
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CGGATGCCAAAAAGCCGGATATGCAGATACTTTCTGCGACTTGTCTCACAACCTCCAC	1800
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CGAGTGTCCAAAAAGCCGGATATGCAGATACTTTCTGCGACTTGTCTCACAACCTCCAC	1773
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CAGAAAAAGCGCCACTACATGCCAATTCTAATGAGCTTGGCATCAGCGACATTAATATC	1860
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CAGAAGAAGCGCCAATACATGCCAATTCTAATGAGCTTGGCATCAGCGACATTAATATC	1833
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGAAAACATCTGCAAGATAAAAAGGTATCTAATTGTTATTGATGATTTGTTGGGACGCATCA	1920
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGCAAAACATCTGCAAGATAAAAAGGTACCTAATTATTATTGATGATTTGTTGGGACGCATCA	1893
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GCATGGGATATTATCAAGTATGCCTTTCCAAATGGAAACCGTGGCAGCAGAATAATAATA	1980
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GCATGGGATATTATCAAAATATGCTTTTCCAAATGGAAACCGTGGCAGCAGAATAATAATA	1953
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ACTACACAGATTGAAGATGTTGCATTAACATGTTGCTCTGATCACTCAGAACATGTTTTC	2040
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ACTACACAGATTGAAGATGTTGCATTAACATGTTGCTGTGATCACTCAGAACATGTTTTC	2013

TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GAGATGAAACCTCTTGACGAAGATCACTCAAGAAAGCTATTCTTTAACAGGCTTTTGGT	2100
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATGATGAAACCTCTTGATGACGATCACTCAAGAAAGCTGTTCTTTAACAGACTTTTGGT	2073
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCTGGAAGTGACTGTCTGAAGAATTTAAACAAGTTTCAAATGAAATGTTGATGATGT	2160
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCTGGAAGTGACTGCCCTGAAGAATTTAAACAAGTTTCAAATGAAATGTTGATGATGT	2133
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GGTGGTTTCCGCTAGCTACGATCAACATAGCTACTCATTGGCAAATCAACAGAAAGCA	2220
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GGTGGTTTCCGCTAGCTATGATCAACATAGCTAGTCATTGGCAAATCAACAGACAGCA	2193
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTATCACTGGATTTTCTGACATACATACGTGATTCGTTGAGGTCACAATCGTGGTCAAGT	2280
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTATCACTGGATTTTCTGACATACATACGTGATTCGTTGAGGTCACAATCGTGGTCAAGT	2253
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCTGCTTCGGAAAGAACAAGACAAGTACTGAACTCAGCTACAATGATCTTCTCATCAT	2340
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCTACTTCGGAAAGAACAAGACAAGTACTGAACTCAGCTACAATAATCTTCTCATCAT	2313
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTGAAGACATGTTTGTGTATCTTCATATGTATCCAGAGGGCTCCATAGCTGGAAGGAT	2400
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTGAAGACATGTTTGTGTATCTTCATATGTATCCAGAGGGCTCCATAGCTGGAAGGAT	2373
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GATCTGGTGAAGCAATGGGTGGCTGAAGCCTTCATCAATACACGAAAAGGGAAAGAAAA	2460
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GATCTGGTGAAGCAATGGGTGGCTGAAGCCTTCATCAATACACGAAAAGGGAAAGAAAA	2433
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GATCAAACTGGATGGAGAAAGCTGCAGGAATCTATTTGATGAACTTGTGATAGAAGA	2520
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GATCAAACTGGATGGAGAAAGCTGCAGGAATCTATTTGATGAACTTATTGATAGAAGA	2493
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTCATCCAACCCCTAAATATCAACTACAACAATAAGGTGTTGTCATGTACTGTTTCATGAA	2580
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTCATCCAACCTCTAAATATCAACTACAACAATAAGGTGTTGTCCTGTACTGTTTCATGAA	2553

TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTGGTACGTGATCTTCTTGCACACAAGTCTG-----TGGTAGTAGAT	2622
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTGGTACGTGATCTTCTTGCACACAAGTCTGCAGAAGAGAATTCATTGTGGTAGTAGAT	2613
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TATAATCGAAAGAATATATCACTTTCTCATAAGGCCCGTCGGCTATCTCTCCTTTTGCC	2682
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TATAATCGAAAGAATATATCACTTTCTCATAAGGCCCGTCGGCTATCTCTCCTTTTGCC	2673
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AATGCAAGTTATGCCAAGACACCTGTAACATCACAAGGCGCAGGTCGGTCACTTAAT	2742
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ACTGCAAGGTATGCCAAGACACCAGTAAACATCACAAGCCGCAAGTTCGGTCACTTAAT	2733
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTTGTGGATTGTTTCGAGTGCATGCCTTGTATTGGAGAGTTCAAGTTCTCCGTGTTCTG	2802
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTTGTGGATTGTTTCGAGTGCATGCCTTGTATTGGAGAGTTCAAGTTCTCCGTGTTCTG	2793
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AACCTTCAACTATCCGGTCATTGTGGCGACCATGACCCCATAGACCTCACTGGGATTCA	2862
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AACCTTCAACTATCCGGTCATTGTGGCGACCATGACCCCATAGACCTCACTGGGATTCA	2853
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GAACTGTTTCAGTTGAGATATTTGAAGATTACAAGTGATGTGTGCATAAACTACCAAAC	2922
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GAACTGTTTCAGTTGAGATATTTGAAGATTACAAGTGATGTGTGCATAAACTACCAAAC	2913
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CAAATGCGAAAGCTGCAATGTTGGAAACGCTGGATATTATAGATGCACCAAGAGTCACT	2982
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CAAATGCGAAAGCTGCAATGTTGGAAACGCTGGATATTATAGATGCACCAAGAGTCACT	2973
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	0
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GCTATCCCGTGGGATATTATATATCTCCACACTTGTGCACCTGACGCTTCTGTTGAC	3042
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GCTATCCCATGGGATATTATATATCTCCACACTTGTGCACCTAACCTTCTGTTGAC	3033
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----ATGACTGACTCAGTCATCAGTCTGTGGAGCCTT	33
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ACAAATCTGCTGGATTGGATTGGCAGCATGACTGGCTCCATCATCAGTCTGTGGAGCCTT	3102

TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ACAAATCTGCTGGATTGGATTGGCAGCATGACTGACTCCATCATCAGTCTGTGGAGCCTT	3093
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	GGCAAGCTGAACTACCTGCAGGATCTTACCTTAACATGTGCTGATTCTTC-----	86
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GGCAACCTGAACTACCTGCAGGATCTTATCTTACCATTCTTCTACACATCCTCTGGC	3162
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GGCAACCTGAACTACCTGCAGGATCTTATCTTACCATTCTTCTACACATCCTCTGGC	3153
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----ACTTCTGGCGTGAAGCTCTGGCTCATTGATCGGAGGCATGGTAACTGAAA	141
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CATCCAGAGAAAAACATGGAAGCTCTGGGTCTTTACTAGGAGGACATGGCAACTGAAA	3222
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CATCCAGAGAAAAACATGGAAGCTCTGGGTCTTTACTAGGAGGACATGGCAACTGAAA	3213
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	ACTATAGTAATGTCTCATGGCTCATCG-----GTGATTCTGGCGCCTCAAAA	189
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATTATAGTAGTGTCTCATGGCCATTGGTTAAAGATATTGTGGTCTGTGGCTCAAAA	3282
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATTATAGTAGTGTCTCATGGCCATCGGTTAAAGATATTGTGGTCTGTGGCTCAAAA	3273
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	GCAATAATTCTGGGATGACTTGGAACTCTCCCCCTCTCCAGAGATTGAATGCTCG	249
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTAATCATTCTGGGATGAGTTGGAACCTCTCCACTTCTCCAGAGATTGAATGCTCG	3342
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTAATCATTCTGGGATGAGTTGGAACCTCTCCACTTCTCCAGAGATTGAATGCTCA	3333
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	CCGCACAGCTGCATCATAATTTCCCGAATTCCTAAGTGGATTAAGAACTTAGCCACCTG	309
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CCACACAGCTGCGTCATAATTTCCCGAATTCCTAGTGGATTAAGAACTTAGGTAACCTG	3402
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CCGCACAGCTGCGTCATAATTTCCCGAATTCCTAAGTGGGTTAAGAACTTAGGTAACCTG	3393
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	TGCATTCTGAAGATTGCAGTGGTGGAACTGCAGATTAGTTGGTTGATATTCTGAGAGGA	369
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGCATTCTGAAGATTGCAGTGGTGGAACTGCAGATTAGTTGGTTGATATTCTGAGAGGA	3462
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGCATTCTGAAGATTGCAGTGGTGGAACTGCAGATTAGTTGGTTGATATTCTGAGAGGA	3453
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	TTGCCTGCCCTCACTGCTCTGTCTGTATGTGCGGCTGCGCCATTGAAAAGGATCATC	429
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTGCCTGCCCTCACTGCTCTGTCTGTATGTGCGGCTGCGCCATTGAAAAGGATCCTC	3522
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTGCCTGCCCTCACTGCTCTGTCTGTATGTGCGGCTGCGCCATTGAAAAGGATCCTC	3513
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	TTCAACAAGGCAGACGGGTTCTCAGTTCTCAAGTACTTCAAGTTGACTGCACGAGTGGT	489
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTTGACAAGATGCCCAGGTTTCTCAGTTCTCAAGTACTTCAAGTTGAGGTTGACGAGTGGT	3582
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTTGACAAGATGCCCAGGTTTCTCAGTTCTCAAGTACTTCAAGTTGAGGTTGACGAGTGGT	3573
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	ATAGCGTGTCTAAAATTTGAGGCGCAAGCAATGCCTAATCTTGAAGCTCAAGTAGGT	549

TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATCCCATGGCTGAAATTTGAGGCGGATGCAATGCCTAACCTCTGGAAGCTGAAGCTAGGT	3642
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATCCCATGGCTGAAATTTGAGGCGGATGCAATGCCTAATCTCTGGAAGCTGAAGCTGGGT	3633
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	TTCAATGCCACCCCGAATGGACCAACATCAACTTATCCGCATCGAGCATATGCCAAAC	609
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTCAATGCAATCCCGAATGGACCAACATCAACTAATCTGCATCGAGCATATCCAGAC	3702
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TTCAATGCAATCCCGAATGGACCAACATCAACTAATCCGCATCGAGCATATGCCAGAC	3693
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	CTTAAAGGATATCCGTAATAATTTGGGGGTAGTGCTCATATAGAGTATGCGAGGTCT	669
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTTAAAGAGATCTCTGTAATAATTTGGGGGTAGTGCTCTTATAGAGTATGCCGTAAG	3762
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTTAAAGAGATCTCTGTAATAATTTGGGGGTAGTGCTCTTATAGAGTATGCCGTAAG	3753
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	GTT---GTAAGTAGTCATCCGAGAAATCTACAATCAATGCAATGGTGAATTTTGT	726
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ACTGTCATTAGTAATCATCTGAGAAATCTAGAGTCCATGTGTGTTGGTGACTTCTACT	3822
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ACGGTCATTAGTAATCATCTGAGAAATCTAGAGTCCATGTGTGTTGGTGACTTCTACT	3813
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	TCAAATGTGTGGAAGCACAAAACAGAACCTTCTCACCAACTGGGCTGTCAAGTCACGT	786
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TTCTATGGTGCCGAGAGACAAAAGAGAACTCCACCAACTCGGCGATCAAGTCGCGC	3882
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCCTATGGTGATGAAAGCACAAAAGAGAACTCCACCAACTCGGCGGTCGAGTCGCAC	3873
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	GCCGAGCTCAGACCAATGGAGGATCTCCAGTCACTCACCACCCTTCTCCAGC	846
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATGGCCGCCACAACCCAATGGAGACTCGACCAGCCAGTCACCACCGCTTCGCCAC	3942
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATGGCCGCCACAACCTCAACGGAGACTCGACCAGCCAGTCACCACCGCTTCGCCAC	3933
	** *** ** * ** ***** ** * ** ***** ***** ** *	
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	TCCGATGGCATCTTCATGGCAG-----ACATGAACTGGAGGCGCTC	888
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGCAACAGTGTCTCGACAGAGGTGCTGCTTCCGGGACGAGATGTGGAGAGCTC	4002
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGCGACAGTGTCTCGACAGAGGTGCTGCTTCCGGGACGAGATGTGGAGAGCTC	3993
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	TGCCGCTATCTGACAACCTCGCCCGCTTCCGCTCGCCGGATGCTTCGCCTTCCTT	948
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGCCACCTCTCCGACAATCTCGCCACCGCTTTCGCTCTCCAGAAGACTTACCTT---	4058
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TGCCACCTCTCCAACAATCTCGCCACCGCTTTCGCTCTCCAGAAGACTTACCTT---	4049
	**** ** * * ***** ***** ** * ** * * * * * * * * * * * *	
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	GTTGACATGCACATCGTCGTGCCGACGCGCCGACCTGCCTGTGCACCTTCCATGCTC	1008
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	-----CCTGTGCACATGCGTGCGTACCGCTCCATGCTC	4092
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	-----CCTGTGCACATGCGTGCGTACCGCTCCATGCTC	4083
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	TGCGCACGAAGTCCCTTCTGCATGATTCTTCATGCGCCGTGCCGCTGCCGTGAAGGGC	1068
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCCGTCCAGAGTCCCTTCTGGATGCCGCTTCGCGCGTCGTGCCGCTGAAGGGGAGGAC	4152
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCCGTCCGAGTCCCTTCTGGATGCCATCTCGCGCGTCGTGCCGCTGAAGGGGAGGGC	4143
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	AACCGGTGGACCTCCGGAGCTTCTGGGTGAGAAGATGGAGGTCGGGTACGAGTCATTG	1128
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GACCGGTGGACCTCCGGAGCTTCTGGGTGAGGAGTGGAGGTCGGGTATGAGGCACTG	4212
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AACCGGTGGACCTCCGGAGCTTCTGGGTGAGGAGTGGAGGTCGGGTATGAGGCACTG	4203
	*** ***** ***** ** ***** ** * **	
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	CAGTGGTGTCTGAGTACCTGTACACCGGCTGCGTCGGCGACCTCCCAAGTCGGGTGTC	1188
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CAGTGGTGTCTGAGTACCTGTACACCGGCGCATCCGCGACCTCCCAAGTCAGCATGC	4272
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CAGTGGTGTCTGAGTACCTGTACACCGGCTGCATCCGCGACCTCCCAAGTCGGCATGC	4263
	*** ***** ***** ** * ***** ** * **	
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	GTCTGCGTGTAGATGGCTGCACGCATGTCGGCTGCCACCCGTCATCTCCTTCATG	1248
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTTTGGCGCAGCTGGACGGCTGCGCCACGTCGGTTGCCCTCCCGCATCTCCTTCATG	4332
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTTTGGCGCAGCTGGACGGCTGCGCCATGTCGGCTGCCCTCCCGCATCTCCTTCATG	4323
	** ***** ** * ** ***** * ** ***** ** * ***** *****	
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	GTGCAGGTCTCTTGGCCGATCCACCTTCCAGATTGCCAAGCTCACCAACCTTCCAG	1308
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GCGCAGGTCTCTTGGCCGATCCATCTTCAGGTTGCGGTGCTCACCAACCTTCCAG	4392
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GCGCAGGTCTCTTGGCCGATCCATCTTCAGGTTGCCGTGCTCACCAACCTTCCAG	4383
	* ***** ***** ***** ** * **** ***** *****	
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	TGGCGTCTCTTGTATGTCCTTGTATGTTGAAGTTGATAACCTTCCATTGATCTTATCT	1368
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CGGCTTCTCTTGTATGTCCTTGTATGTTGAAGTTGATAACCTTCCATTGATCTTATCT	4452
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CGGCTTCTCTTGTATGTCCTTGTATGTTGAAGTTGATAACCTTCCATTGATCTTATCT	4443
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	GTTGCAAACTTATGCAATAAATCATGCATGAACTTCTCGAGAGATGCCTTGAGATGGTA	1428
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTTGCAAACTTATGCAATAAATCTTGCATGCATCTGCTTGAGAGATGCCTTGAGATGGTA	4512
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTTGCAAACTTATGCAATAAATCTTGCATGCATCTGCTTGAGAGATGCCTTGAGATGGTA	4503
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	GTTCCGTCAAATCTTGACATGATTACTCTTGAGAAAGCATTGCCTCCAGATATTATCAAG	1488
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GTCCGTCAAATCTTGACATGATTACTCTTGAGAAAGCATTGCCTCCAGATATTATCAAG	4572
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GTCCGTCAAATCTTGACATGATTACTCTTGAGAAAGCATTGCCTCCAGATATTATCAAG	4563
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	CAAATTGCTGATTCACGCTAAGTCTTGGGTAGTTTCAGCGAAGACAAGGATTTCCT	1548
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CAAATTACTGACTCGCGATAAGTCTTGGGTAATTCACCAAGGACAACGGATTTCCT	4632
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CAGATTACTGATTCACGCTAAGTCTTGGGTAATTCACCGAAGATAAGGATTTCCT	4623
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	AACAAACATGTAAGAAGGATACTCCAAGCTCTTGACAGTAATGATGCGGAGGTAGCGACG	1608
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AACAAACATGTAAGAAGGATATTCGGAGCTCGATTCTTATGATGTGGAGCTAGTGAGG	4692
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AACAAACATGTAAGAAGGATACTCAGAGCTCTTGATTCTGATGATGTGTGTTAGTGAGG	4683
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	ATCTGCACCAGGAAGGCAGACTAATCTTGATGATGCGTTTGCCTTGCACTATGCTGTT	1668
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TGCTACTCTACGAAGGCAGACTAATCTTGATGATGCATTTGCATTGCACTATGCTGTA	4752
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATGCTGCTCAAAGAAGGCGGACTAATCTTGATGGTGCATTTGCATTGCACATGCTGTA	4743
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	GAACATTGTGACTCAAAGATCATAACAGAAATTTGGACATCACACTTGCACTGTTAAT	1728
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GAACATTGTGACCAAAGATCACAACAGAACTTCTGGACCTCGAACTTGCACTGTTAAT	4812
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GAACATTGTGACTCGAAGTCACAATGGAATCTTGATATCGACTTGCACTGTTAAT	4803
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	CATAGAAATCCTAGAGTTATACTGTTCTTACATTGCTGCCAGGGAAGAGATCCAAA	1788
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CGTAGAAATCAAAGAGTTATACTGTTCTTACATTGCTGCCAGGGAAGAAATCCTAAA	4872
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CATAGAAATCAAAGAGTTATACTGTTCTTACCGTTGCTGCCAGGGAAGAGATCCTAAA	4863
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	ATCTTGCTCTCTTTAACCAGGGTCTCGCCTCCGATCTTACATTGATGGAAGA	1848
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	ATCTTGCTCTCTTTAACCAGGAGCTCGCCTCCGATCTTACATTGATGGAAGA	4932
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	ATCTTGCTCTCTTTAACCAGGGTCTCGCATTCTGATCTTACATTGATGGAAGA	4923
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	ACAGCAGTCAAATCTCAAAAAGACTCACAAAACATAGGGATTACTTTGGGGTACTGAA	1908
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AAAGCAATCAAATCTCAAAAGACTCACAAAACATGGGATTACTTTGGGATTACTGAA	4992
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AAAGCAGTCAAATCTCAAAAGACTCACAAAACATGGGATTACTTTGGGATTACAGAA	4983
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	AAAGGAAATCGTCTCCTCAAGTCGGTTATGCATTGAGATACTAGAGCAAGCTGAAAGA	1968
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GAAGGAAAACCGTCTCCTGAATATAGTTTATGCATTGAGATACTGGAGCAAGCTGAAAGA	5052
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GAAGGAAAACCGTCTCGTGAAGTAGGTTATGCATTAAGATACTGGAGCAAGCTGAAAGA	5043
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	AAAGCACAACCTGGAGAAGATGA-----	1992
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AGGGGTCCACAACCTGGAGAAGCATCGGTTTCTCTTGCAATAGCTGGTACTGTCAACGT	5112
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AGGGATCCACAACCTGGAGAAGCATCGGTTTCTCTTGCAATAGCTGGTACTGTCAACGT	5103
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TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	1992
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GGGACGCTGTGACCTCGAAAATCGAGTTACTTTGATGAGGATAATGTTCCAACCTGAG	5172
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GGAAAGCTGTGTACCTCGAAAATCGAGTTGCTTTGATGAGGATAATGTTCCAACCTGAG	5163

TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	1992
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GCAAGAGTAGCAATGGACATCGCTCAAGTGGATTGCACTTTGGAGTTAACCCCTTGATTCT	5232
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GCAAGAATAGCAATGGACATCGCTCAAGTGGATTGTACTTTGAAGTTAACCCCTTGATTCT	5223
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	1992
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GAGGCAAAACCTCCTTCGGAGAAAGAAGTGGCAACCATTGATCTAAATGAAACTCGTTTC	5292
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GGGGCAAAACCTCCTCCGGAGAAAGAAGTGGCAACCATTGATCTAAATGAAACTCCTTTC	5283
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	1992
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CAAATGAATGACGAACACTTAGCTCGGATGAGTGCCTTCTCAAAACAGTTGAACTCTGT	5352
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CATATGAATGAAGAACACTTAGCTCGGATGAGTACCCTCTCAAAACAGTTGAACTCTGT	5343
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	1992
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	AAACGCTTCTTTCCGCGTTGTTCAAATGTCATAGACAAGATTATGAATGATGAACCTGAG	5412
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	AAACGCTTCTTTCCGCGTTGTTCAAATGTGATAGACAAGATTATGGATGATGAACCTGAG	5403
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	1992
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	CTGGCTCCCTTCAAAGAGACACATCCACCGAGAGGAATCGGAGGTTCCGGTACATGCAC	5472
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	CTGGCTCCCTTCAAAGAGACGCATCCACCGAGAGGACTCGGAGGTTCCGGTTACCTGCAG	5463
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	1992
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	GACACGCTTCAGAAGCATTACGCGAGGACAAGGGTTCGTCTAGTTTTGACAAATCTGGG	5532
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	GACGCGGTTCAGAAGGCATTAAGCGAGGACAAGGCTAGTTT-----TGACAAATCTGGG	5517
TRIAE_CS42_7AS_TGACv1_569068_AA1806230.1	-----	1992
TRIAE_CS42_4AL_TGACv1_288580_AA0952690.1	TCATAG	5538
TRIAE_CS42_7DS_TGACv1_622487_AA2040690.1	TCATAG	5523