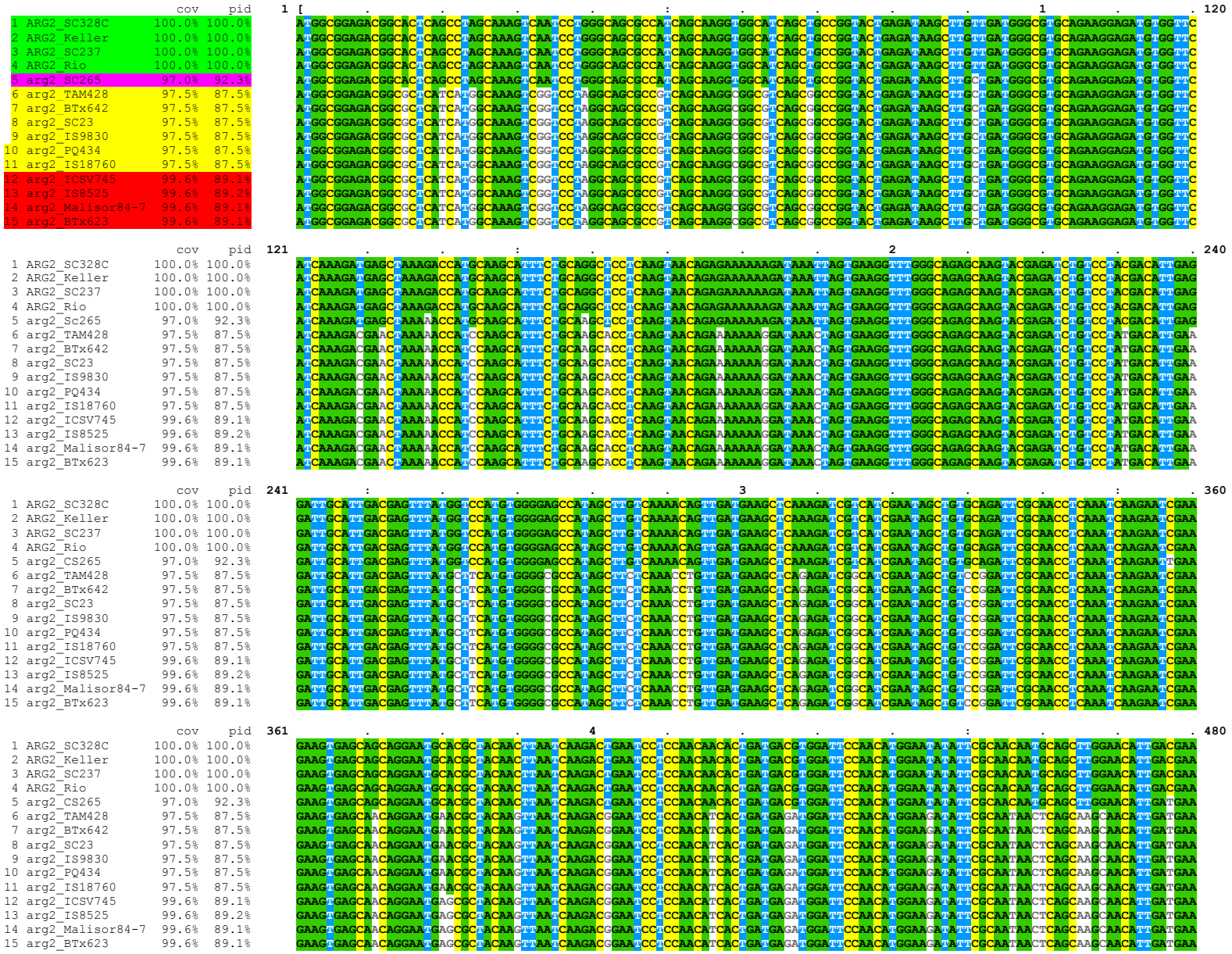
Data S1 to S4 for

ANTHRACNOSE RESISTANCE GENE2 confers fungal resistance in sorghum

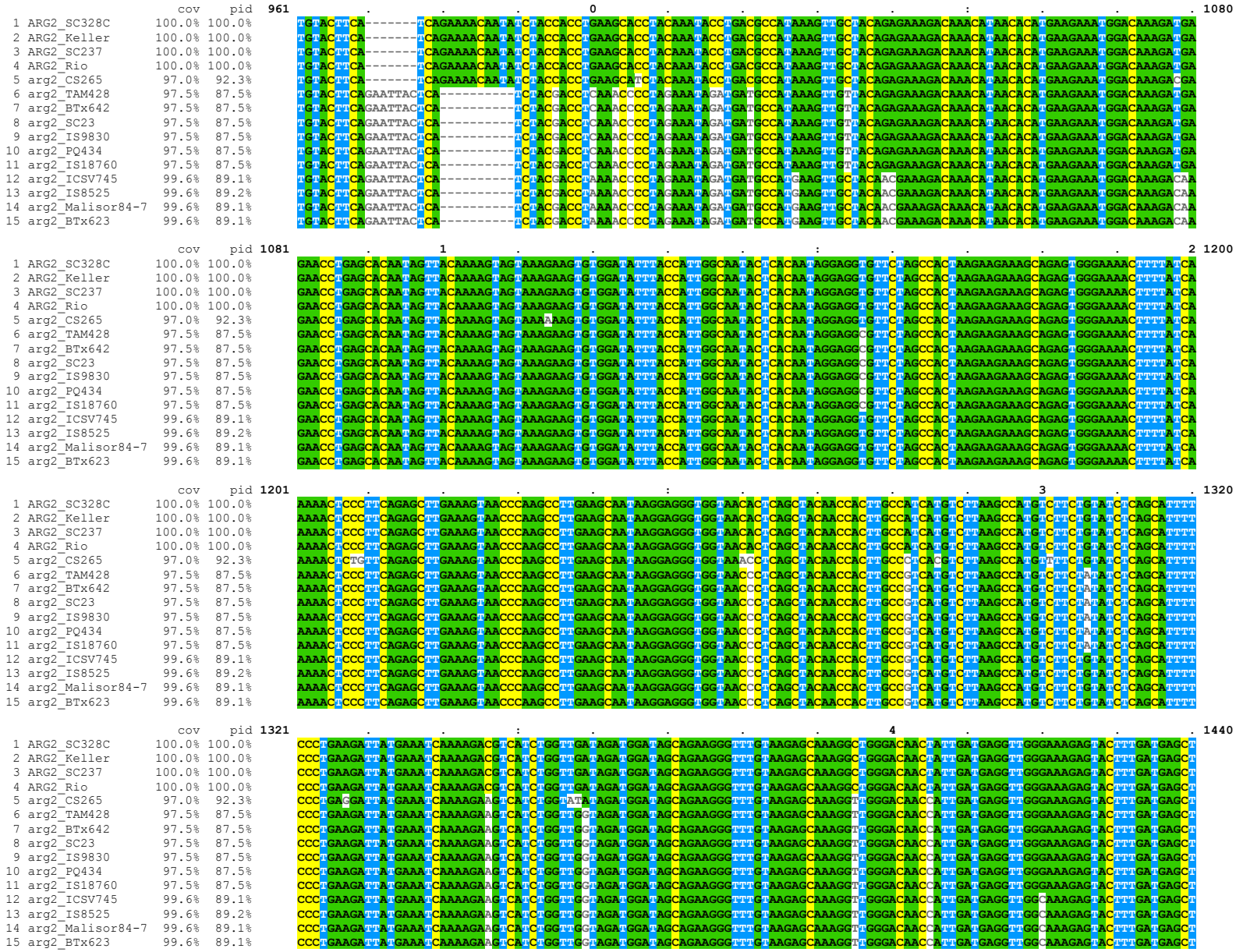


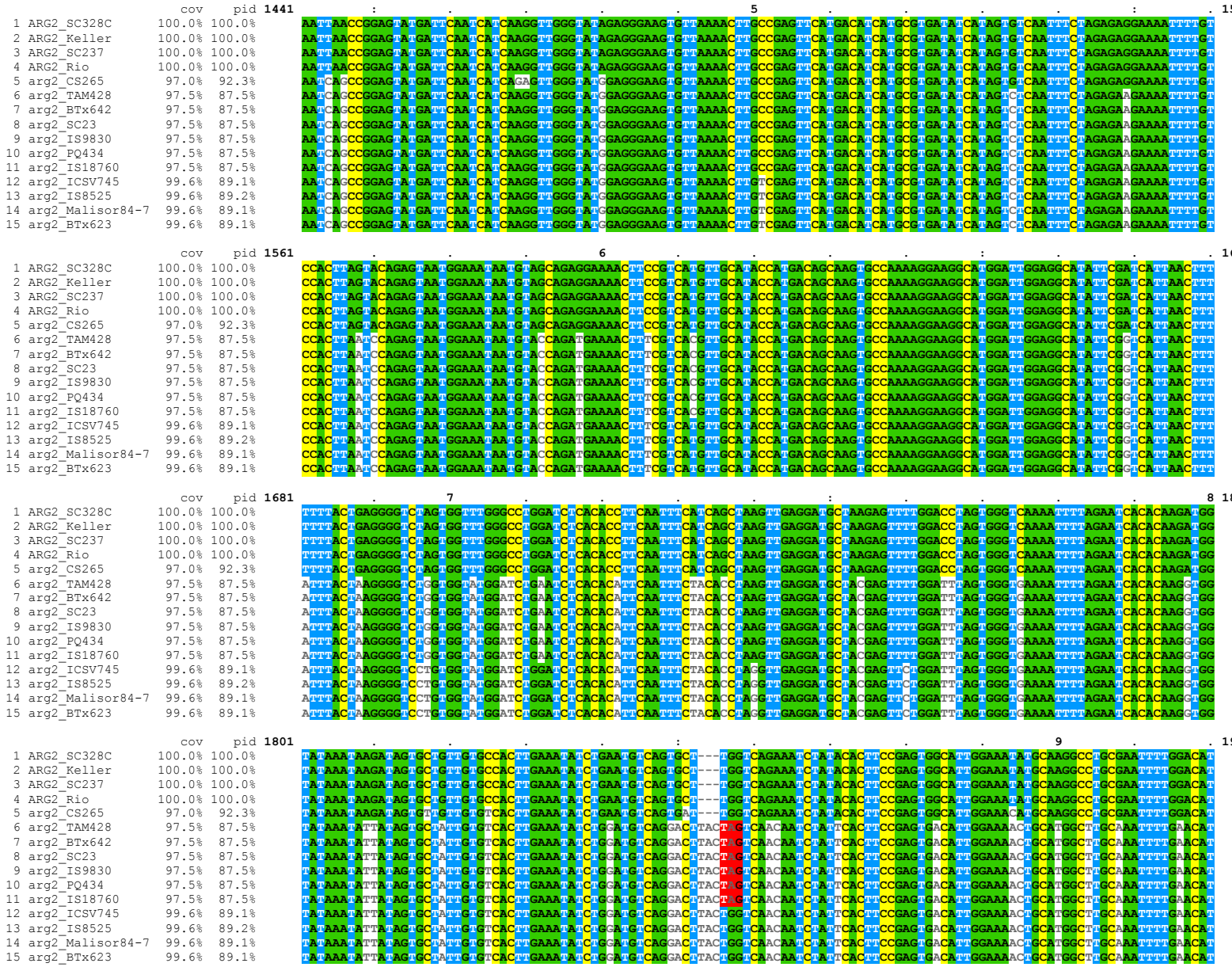
```
                          cov    pid   481        .         5         .         .         .         .         :         .         .         .         .         .         6 600
 1 ARG2_SC328C       100.0% 100.0%    GCAGAACTTGTGGGCTTTGAAGCACCTAAAAGAGAGTTGATTGCTCTGATTGATGTCACCACTATGGATGGTCCTGATAAGGTGGTATGTGTGGTTGGCATGGGTGGTTTGGGGAAGACT
 2 ARG2_Keller       100.0% 100.0%    GCAGAACTTGTGGGCTTTGAAGCACCTAAAAGAGAGTTGATTGCTCTGATTGATGTCACCACTATGGATGGTCCTGATAAGGTGGTATGTGTGGTTGGCATGGGTGGTTTGGGGAAGACT
 3 ARG2_SC237        100.0% 100.0%    GCAGAACTTGTGGGCTTTGAAGCACCTAAAAGAGAGTTGATTGCTCTGATTGATGTCACCACTATGGATGGTCCTGATAAGGTGGTATGTGTGGTTGGCATGGGTGGTTTGGGGAAGACT
 4 ARG2_Rio          100.0% 100.0%    GCAGAACTTGTGGGCTTTGAAGCACCTAAAAGAGAGTTGATTGCTCTGATTGATGTCACCACTATGGATGGTCCTGATAAGGTGGTATGTGTGGTTGGCATGGGTGGTTTGGGGAAGACT
 5 arg2_CS265         97.0%  92.3%    GCAGAACTTGTGGGCTTTGAAGCACCTAAAAGAGAGTTGATTGCTCTGATTGATGTCACCACTATGGATGGTCCTGATAAGGTGGTATGTGTGGTTGGCATGGGTGGTTTGGGGAAGACT
 6 arg2_TAM428        97.5%  87.5%    GCAGAACTTGTGGGTTTTGATGCACCAAAAAGAGAGTTGATTGCTATGATTGATGTCACCATTATGGACGGTCCTGCTAAGGTGATATGTGTGGTTGGCGTGGGTGGTTTAGGGAAGACA
 7 arg2_BTx642        97.5%  87.5%    GCAGAACTTGTGGGTTTTGATGCACCAAAAAGAGAGTTGATTGCTATGATTGATGTCACCATTATGGACGGTCCTGCTAAGGTGATATGTGTGGTTGGCGTGGGTGGTTTAGGGAAGACA
 8 arg2_SC23          97.5%  87.5%    GCAGAACTTGTGGGTTTTGATGCACCAAAAAGAGAGTTGATTGCTATGATTGATGTCACCATTATGGACGGTCCTGCTAAGGTGATATGTGTGGTTGGCGTGGGTGGTTTAGGGAAGACA
 9 arg2_IS9830        97.5%  87.5%    GCAGAACTTGTGGGTTTTGATGCACCAAAAAGAGAGTTGATTGCTATGATTGATGTCACCATTATGGACGGTCCTGCTAAGGTGATATGTGTGGTTGGCGTGGGTGGTTTAGGGAAGACA
10 arg2_PQ434         97.5%  87.5%    GCAGAACTTGTGGGTTTTGATGCACCAAAAAGAGAGTTGATTGCTATGATTGATGTCACCATTATGGACGGTCCTGCTAAGGTGATATGTGTGGTTGGCGTGGGTGGTTTAGGGAAGACA
11 arg2_IS18760       97.5%  87.5%    GCAGAACTTGTGGGTTTTGATGCACCAAAAAGAGAGTTGATTGCTATGATTGATGTCACCATTATGGACGGTCCTGCTAAGGTGATATGTGTGGTTGGCGTGGGTGGTTTAGGGAAGACA
12 arg2_ICSV745       99.6%  89.1%    GCAGAACTTGTGGGTTTTGATGCACCAAAAAGAGAGTTGATTGCTATGATTGATGTCACCATTATGGACGGTCCTGCTAAGGTGATATGTGTGGTTGGCATGGGTGGTTTAGGGAAGACA
13 arg2_IS8525        99.6%  89.2%    GCAGAACTTGTGGGTTTTGATGCACCAAAAAGAGAGTTGATTGCTATGATTGATGTCACCATTATGGACGGTCCTGCTAAGGTGATATGTGTGGTTGGCATGGGTGGTTTAGGGAAGACA
14 arg2_Malisor84-7   99.6%  89.1%    GCAGAACTTGTGGGTTTTGATGCACCAAAAAGAGAGTTGATTGCTATGATTGATGTCACCATTATGGACGGTCCTGCTAAGGTGATATGTGTGGTTGGCATGGGTGGTTTAGGGAAGACA
15 arg2_BTx623        99.6%  89.1%    GCAGAACTTGTGGGTTTTGATGCACCAAAAAGAGAGTTGATTGCTATGATTGATGTCACCATTATGGACGGTCCTGCTAAGGTGATATGTGTGGTTGGCATGGGTGGTTTAGGGAAGACA
```

```
                          cov    pid   601        .         .         .         .         :         .         .         .         .         7         .         . 720
 1 ARG2_SC328C       100.0% 100.0%    ACTCTTGCAAGAAAAACCTATGAAAGCAGGGAGGATACTCTGAAGAGCTTTCCTTATAGAGCTTGGATCACTGTGTCACAGTCATTTTCCAGGAGGGGGATACTTCAAGACATGATCAGT
 2 ARG2_Keller       100.0% 100.0%    ACTCTTGCAAGAAAAACCTATGAAAGCAGGGAGGATACTCTGAAGAGCTTTCCTTATAGAGCTTGGATCACTGTGTCACAGTCATTTTCCAGGAGGGGGATACTTCAAGACATGATCAGT
 3 ARG2_SC237        100.0% 100.0%    ACTCTTGCAAGAAAAACCTATGAAAGCAGGGAGGATACTCTGAAGAGCTTTCCTTATAGAGCTTGGATCACTGTGTCACAGTCATTTTCCAGGAGGGGGATACTTCAAGACATGATCAGT
 4 ARG2_Rio          100.0% 100.0%    ACTCTTGCAAGAAAAACCTATGAAAGCAGGGAGGATACTCTGAAGAGCTTTCCTTATAGAGCTTGGATCACTGTGTCACAGTCATTTTCCAGGAGGGGGATACTTCAAGACATGATCAGT
 5 arg2_CS265         97.0%  92.3%    ACTCTTGCAAGGAAAACCTATGAAAGCAGGGAGGATACTCTGAAGAGCTTTCCTTATAGAGCTTGGATCACTGTGTCACAGTCATTTTCTAGGAGGGGGATACTTCAAGACATGATCAGT
 6 arg2_TAM428        97.5%  87.5%    ACTCTTGCAAGGAAAACCTATGAAAGCAAGGAGGATACTCTGAAGAGCTTTCCTTTTAGAGCTTGGATCACCTTGTCACAATCATTTTCCAAGAGGGCGATGCTCCAAGACATGATCAAT
 7 arg2_BTx642        97.5%  87.5%    ACTCTTGCAAGGAAAACCTATGAAAGCAAGGAGGATACTCTGAAGAGCTTTCCTTTTAGAGCTTGGATCACCTTGTCACAATCATTTTCCAAGAGGGCGATGCTCCAAGACATGATCAAT
 8 arg2_SC23          97.5%  87.5%    ACTCTTGCAAGGAAAACCTATGAAAGCAAGGAGGATACTCTGAAGAGCTTTCCTTTTAGAGCTTGGATCACCTTGTCACAATCATTTTCCAAGAGGGCGATGCTCCAAGACATGATCAAT
 9 arg2_IS9830        97.5%  87.5%    ACTCTTGCAAGGAAAACCTATGAAAGCAAGGAGGATACTCTGAAGAGCTTTCCTTTTAGAGCTTGGATCACCTTGTCACAATCATTTTCCAAGAGGGCGATGCTCCAAGACATGATCAAT
10 arg2_PQ434         97.5%  87.5%    ACTCTTGCAAGGAAAACCTATGAAAGCAAGGAGGATACTCTGAAGAGCTTTCCTTTTAGAGCTTGGATCACCTTGTCACAATCATTTTCCAAGAGGGCGATGCTCCAAGACATGATCAAT
11 arg2_IS18760       97.5%  87.5%    ACTCTTGCAAGGAAAACCTATGAAAGCAAGGAGGATACTCTGAAGAGCTTTCCTTTTAGAGCTTGGATCACCTTGTCACAATCATTTTCCAAGAGGGCGATGCTCCAAGACATGATCAAT
12 arg2_ICSV745       99.6%  89.1%    ACTCTTGCAAGGAAAACCTATGAAAGCAAGGAGGATACTCTGAAGAGCTTTCCTTTTAGAGCTTGGATCACCTTGTCACAATCATTTTCCAAGAGGGCGATGCTCCAAGACATGATCAGT
13 arg2_IS8525        99.6%  89.2%    ACTCTTGCAAGGAAAACCTATGAAAGCAAGGAGGATACTCTGAAGAGCTTTCCTTTTAGAGCTTGGATCACCTTGTCACAATCATTTTCCAAGAGGGCGATGCTCCAAGACATGATCAGT
14 arg2_Malisor84-7   99.6%  89.1%    ACTCTTGCAAGGAAAACCTATGAAAGCAAGGAGGATACTCTGAAGAGCTTTCCTTTTAGAGCTTGGATCACCTTGTCACAATCATTTTCCAAGAGGGCGATGCTCCAAGACATGATCAGT
15 arg2_BTx623        99.6%  89.1%    ACTCTTGCAAGGAAAACCTATGAAAGCAAGGAGGATACTCTGAAGAGCTTTCCTTTTAGAGCTTGGATCACCTTGTCACAATCATTTTCCAAGAGGGCGATGCTCCAAGACATGATCAGT
```

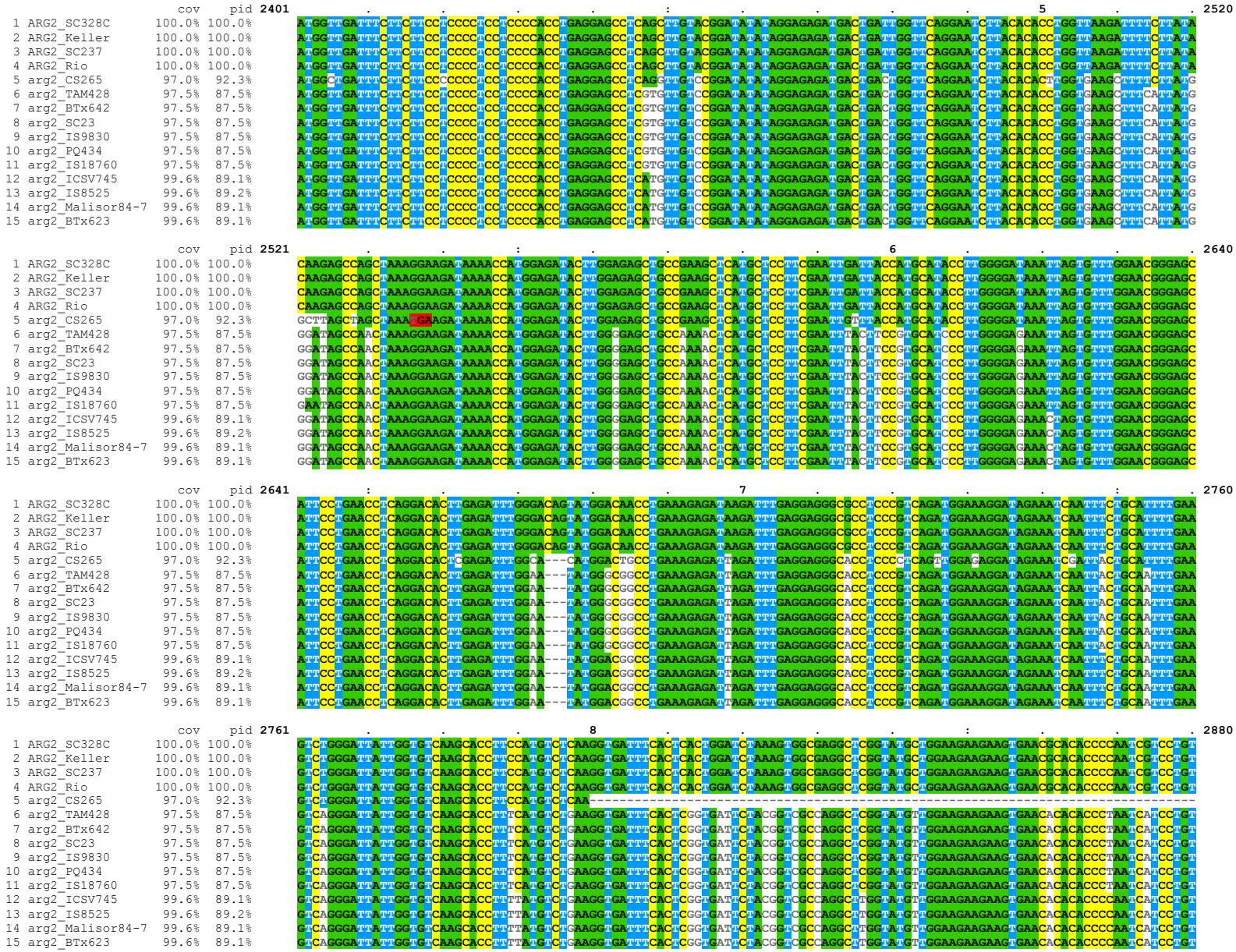
```
                          cov    pid   721        .         .         :         .         .         .         .         8         .         .         .         . 840
 1 ARG2_SC328C       100.0% 100.0%    AAACTCTTTGGTGTTAGTGCACTGAACGATCTCTTAAAACAACCTGCTGGAAAAGTGTTGGAACAGGACCTTGCCAGCTACATCAGAAGAGAGCTTCAAGACAAGAGGTACTTTATTGTT
 2 ARG2_Keller       100.0% 100.0%    AAACTCTTTGGTGTTAGTGCACTGAACGATCTCTTAAAACAACCTGCTGGAAAAGTGTTGGAACAGGACCTTGCCAGCTACATCAGAAGAGAGCTTCAAGACAAGAGGTACTTTATTGTT
 3 ARG2_SC237        100.0% 100.0%    AAACTCTTTGGTGTTAGTGCACTGAACGATCTCTTAAAACAACCTGCTGGAAAAGTGTTGGAACAGGACCTTGCCAGCTACATCAGAAGAGAGCTTCAAGACAAGAGGTACTTTATTGTT
 4 ARG2_Rio          100.0% 100.0%    AAACTCTTTGGTGTTAGTGCACTGAACGATCTCTTAAAACAACCTGCTGGAAAAGTGTTGGAACAGGACCTTGCCAGCTACATCAGAAGAGAGCTTCAAGACAAGAGGTACTTTATTGTT
 5 arg2_CS265         97.0%  92.3%    AAACTCTTTGGTGTTAGTGCCCTGAACGATCTCTTAAAACAACCTGCTGGAAAAGTGTTGGAACAGGACCTTGCCACCAGCCTCAGGCAGAAGCTTGAGGATAAGAGGTACTTCATTGTT
 6 arg2_TAM428        97.5%  87.5%    CAATTTTTTGGACCTGATGCATTGAAGAAACTCTTGGAACAACTTGTCGGGAAAGTGCTAGAAGACGGTCTTGCTAGCTACCTCAGAACACAGCTTCAAGACAAGAGGTACTTTATTGTT
 7 arg2_BTx642        97.5%  87.5%    CAATTTTTTGGACCTGATGCATTGAAGAAACTCTTGGAACAACTTGTCGGGAAAGTGCTAGAAGACGGTCTTGCTAGCTACCTCAGAACACAGCTTCAAGACAAGAGGTACTTTATTGTT
 8 arg2_SC23          97.5%  87.5%    CAATTTTTTGGACCTGATGCATTGAAGAAACTCTTGGAACAACTTGTCGGGAAAGTGCTAGAAGACGGTCTTGCTAGCTACCTCAGAACACAGCTTCAAGACAAGAGGTACTTTATTGTT
 9 arg2_IS9830        97.5%  87.5%    CAATTTTTTGGACCTGATGCATTGAAGAAACTCTTGGAACAACTTGTCGGGAAAGTGCTAGAAGACGGTCTTGCTAGCTACCTCAGAACACAGCTTCAAGACAAGAGGTACTTTATTGTT
10 arg2_PQ434         97.5%  87.5%    CAATTTTTTGGACCTGATGCATTGAAGAAACTCTTGGAACAACTTGTCGGGAAAGTGCTAGAAGACGGTCTTGCTAGCTACCTCAGAACACAGCTTCAAGACAAGAGGTACTTTATTGTT
11 arg2_IS18760       97.5%  87.5%    CAATTTTTTGGACCTGATGCATTGAAGAAACTCTTGGAACAACTTGTCGGGAAAGTGCTAGAAGACGGTCTTGCTAGCTACCTCAGAACACAGCTTCAAGACAAGAGGTACTTTATTGTT
12 arg2_ICSV745       99.6%  89.1%    CAATTTTTTGGACCTGATGCATTGAAGAAACTCTTGGAACAACTTGTCGGGAAAGTGCTAGAAGACCGTCTTGCTAGCTACCTCAGAACACAGCTTCAAGACAAGAGGTACTTTATTGTT
13 arg2_IS8525        99.6%  89.2%    CAATTTTTTGGACCTGATGCATTGAAGAAACTCTTGGAACAACTTGTCGGGAAAGTGCTAGAAGACGGTCTTGCTAGCTACCTCAGAACACAGCTTCAAGACAAGAGGTACTTTATTGTT
14 arg2_Malisor84-7   99.6%  89.1%    CAATTTTTTGGACCTGATGCATTGAAGAAACTCTTGGAACAACTTGTCGGGAAAGTGCTAGAAGACCGTCTTGCTAGCTACCTCAGAACACAGCTTCAAGACAAGAGGTACTTTATTGTT
15 arg2_BTx623        99.6%  89.1%    CAATTTTTTGGACCTGATGCATTGAAGAAACTCTTGGAACAACTTGTCGGGAAAGTGCTAGAAGACCGTCTTGCTAGCTACCTCAGAACACAGCTTCAAGACAAGAGGTACTTTATTGTT
```

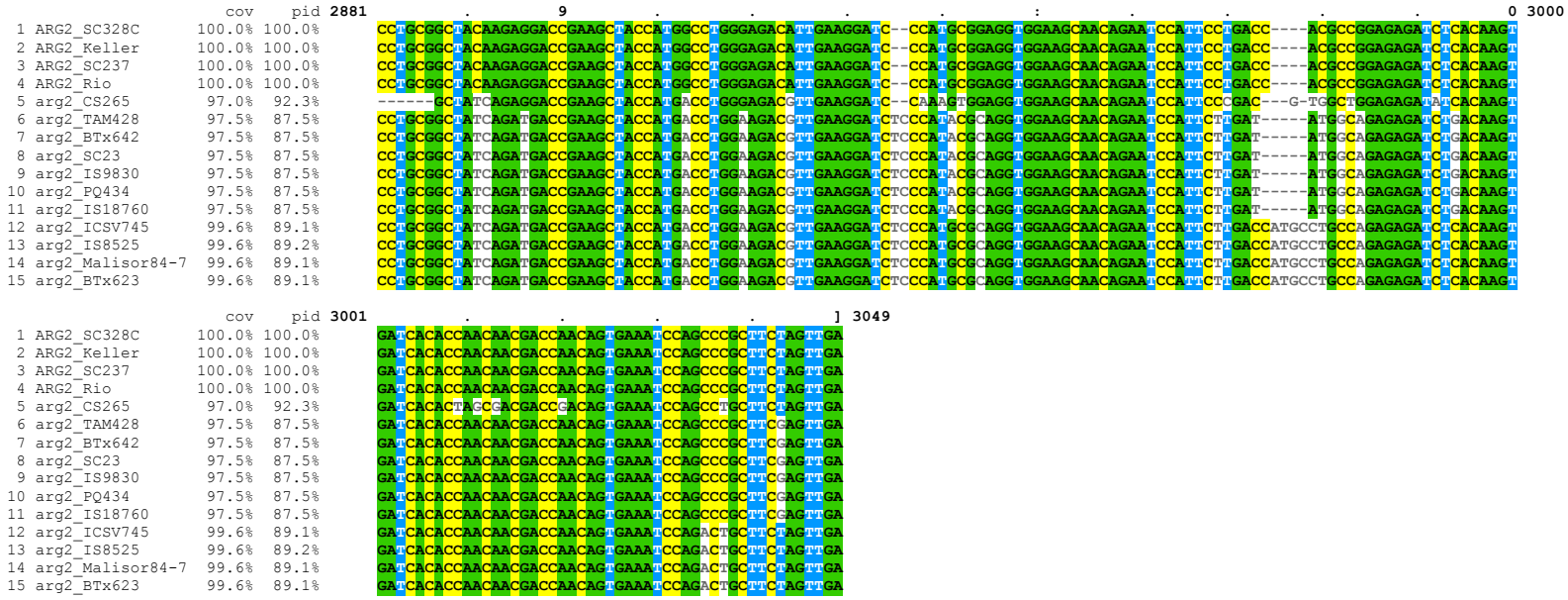
```
                          cov    pid   841        :         .         .         .         .         9         .         .         .         .         :         . 960
 1 ARG2_SC328C       100.0% 100.0%    TTTGATGACCTATGGGAAATACATCACTGGAACTGGATTAGTGCTATTGCACTTCCTATGTCAAACAACATAGGTAGTCGGATAATGATTACTACCAGAGATGTTGGCTTGGCTCTGCAC
 2 ARG2_Keller       100.0% 100.0%    TTTGATGACCTATGGGAAATACATCACTGGAACTGGATTAGTGCTATTGCACTTCCTATGTCAAACAACATAGGTAGTCGGATAATGATTACTACCAGAGATGTTGGCTTGGCTCTGCAC
 3 ARG2_SC237        100.0% 100.0%    TTTGATGACCTATGGGAAATACATCACTGGAACTGGATTAGTGCTATTGCACTTCCTATGTCAAACAACATAGGTAGTCGGATAATGATTACTACCAGAGATGTTGGCTTGGCTCTGCAC
 4 ARG2_Rio          100.0% 100.0%    TTTGATGACCTATGGGAAATACATCACTGGAACTGGATTAGTGCTATTGCACTTCCTATGTCAAACAACATAGGTAGTCGGATAATGATTACTACCAGAGATGTTGGCTTGGCTCTGCAC
 5 arg2_CS265         97.0%  92.3%    TTTGATGACCTATGGGAAATAGATCACTGGAACTGCATTCGTGGTGTTGCACTTCCTATGTCAAATAACAGAGGCAGTCGGATAATGATTACTACCAGAGATGTTGGCTTGGCTCTGCAC
 6 arg2_TAM428        97.5%  87.5%    TTTGATGACCTATGGGAAATAAATCATTGGAATTGGATTAGTGGTATTGCACTTCCTAGCTCAAATAACAAAGGTAGTCGGATAATTGTTACTACCAGAGATGCTGGCTTGGCAAGACAC
 7 arg2_BTx642        97.5%  87.5%    TTTGATGACCTATGGGAAATAAATCATTGGAATTGGATTAGTGGTATTGCACTTCCTAGCTCAAATAACAAAGGTAGTCGGATAATTGTTACTACCAGAGATGCTGGCTTGGCAAGACAC
 8 arg2_SC23          97.5%  87.5%    TTTGATGACCTATGGGAAATAAATCATTGGAATTGGATTAGTGGTATTGCACTTCCTAGCTCAAATAACAAAGGTAGTCGGATAATTGTTACTACCAGAGATGCTGGCTTGGCAAGACAC
 9 arg2_IS9830        97.5%  87.5%    TTTGATGACCTATGGGAAATAAATCATTGGAATTGGATTAGTGGTATTGCACTTCCTAGCTCAAATAACAAAGGTAGTCGGATAATTGTTACTACCAGAGATGCTGGCTTGGCAAGACAC
10 arg2_PQ434         97.5%  87.5%    TTTGATGACCTATGGGAAATAAATCATTGGAATTGGATTAGTGGTATTGCACTTCCTAGCTCAAATAACAAAGGTAGTCGGATAATTGTTACTACCAGAGATGCTGGCTTGGCAAGACAC
11 arg2_IS18760       97.5%  87.5%    TTTGATGACCTATGGGAAATAAATCATTGGAATTGGATTAGTGGTATTGCACTTCCTAGCTCAAATAACAAAGGTAGTCGGATAATTGTTACTACCAGAGATGCTGGCTTGGCAAGACAC
12 arg2_ICSV745       99.6%  89.1%    TATGATGACCTATGGGAAATAAATCATTGGAATTGGATTAGTGGTATTGCACTTCCTAGGTCAAATAACAAAGGTAGTCGGATAATTGTTACTACCAGAGATGCTGCCTTGGCAAGACAC
13 arg2_IS8525        99.6%  89.2%    TATGATGACCTATGGGAAATAAATCATTGGAATTGGATTAGTGGTATTGCACTTCCTAGGTCAAATAACAAAGGTAGTCGGATAATTGTTACTACCAGAGATGCTGCCTTGGCAAGACAC
14 arg2_Malisor84-7   99.6%  89.1%    TATGATGACCTATGGGAAATAAATCATTGGAATTGGATTAGTGGTATTGCACTTCCTAGGTCAAATAACAAAGGTAGTCGGATAATTGTTACTACCAGAGATGCTGCCTTGGCAAGACAC
15 arg2_BTx623        99.6%  89.1%    TATGATGACCTATGGGAAATAAATCATTGGAATTGGATTAGTGGTATTGCACTTCCTAGGTCAAATAACAAAGGTAGTCGGATAATTGTTACTACCAGAGATGCTGCCTTGGCAAGACAC
```


cov pid 961 . . . 0 . . . . . : . . . 1080
1 ARG2_SC328C 100.0% 100.0%
2 ARG2_Keller 100.0% 100.0%
3 ARG2_SC237 100.0% 100.0%
4 ARG2_Rio 100.0% 100.0%
5 arg2_CS265 97.0% 92.3%
6 arg2_TAM428 97.5% 87.5%
7 arg2_BTx642 97.5% 87.5%
8 arg2_SC23 97.5% 87.5%
9 arg2_IS9830 97.5% 87.5%
10 arg2_PQ434 97.5% 87.5%
11 arg2_IS18760 97.5% 87.5%
12 arg2_ICSV745 99.6% 89.1%
13 arg2_IS8525 99.6% 89.2%
14 arg2_Malisor84-7 99.6% 89.1%
15 arg2_BTx623 99.6% 89.1%
cov pid 1081 . 1 . . . . . : 2 1200
cov pid 1201 . . . . . : . . . . . 3 . . 1320
cov pid 1321 . . : 4 1440


cov pid 1441 . . . . . 5 . . . . . : . 1560
1 ARG2_SC328C 100.0% 100.0%
2 ARG2_Keller 100.0% 100.0%
3 ARG2_SC237 100.0% 100.0%
4 ARG2_Rio 100.0% 100.0%
5 arg2_CS265 97.0% 92.3%
6 arg2_TAM428 97.5% 87.5%
7 arg2_BTx642 97.5% 87.5%
8 arg2_SC23 97.5% 87.5%
9 arg2_IS9830 97.5% 87.5%
10 arg2_PQ434 97.5% 87.5%
11 arg2_IS18760 97.5% 87.5%
12 arg2_ICSV745 99.6% 89.1%
13 arg2_IS8525 99.6% 89.2%
14 arg2_Malisor84-7 99.6% 89.1%
15 arg2_BTx623 99.6% 89.1%
cov pid 1561 . . . . 6 . . . . . : . . . 1680
cov pid 1681 . . 7 . . . . . : 8 1800
cov pid 1801 . . . . . : . . . . . 9 . . 1920

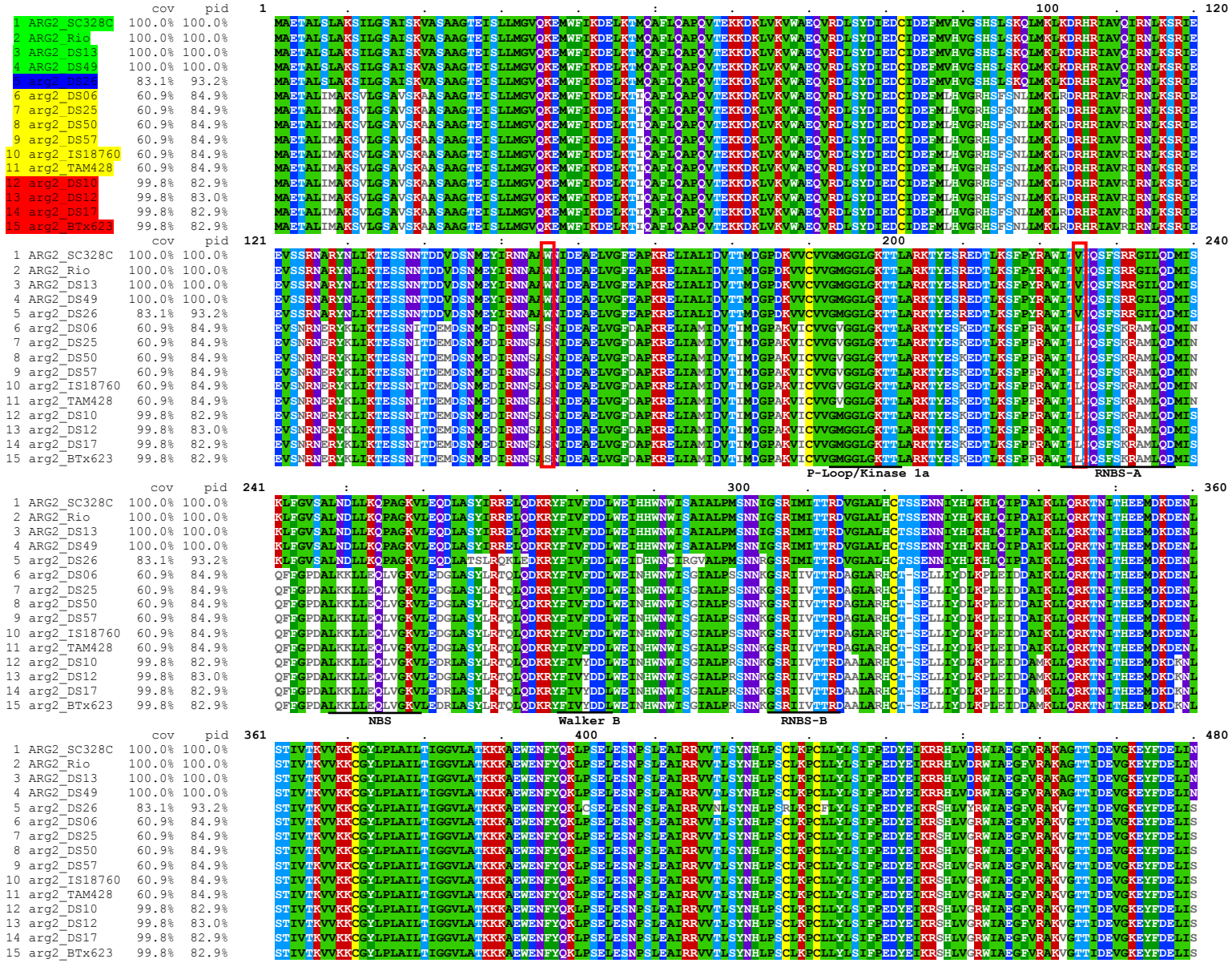
```
                          cov    pid 1921      .         :         .         .         .         .         0         .         .         .         . 2040
 1 ARG2_SC328C         100.0% 100.0%     GGGATATACTTGTATTACAACTCTTCCAACGAATATCACTAAACTTCGAGATCTCCATGTCATCCTCTGTAATAGGATACCCTATCGTTATTTGGATCCAAATGAACCAGTGGACTGTTT
 2 ARG2_Keller         100.0% 100.0%     GGGATATACTTGTATTACAACTCTTCCAACGAATATCACTAAACTTCGAGATCTCCATGTCATCCTCTGTAATAGGATACCCTATCGTTATTTGGATCCAAATGAACCAGTGGACTGTTT
 3 ARG2_SC237          100.0% 100.0%     GGGATATACTTGTATTACAACTCTTCCAACGAATATCACTAAACTTCGAGATCTCCATGTCATCCTCTGTAATAGGATACCCTATCGTTATTTGGATCCAAATGAACCAGTGGACTGTTT
 4 ARG2_Rio            100.0% 100.0%     GGGATATACTTGTATTACAACTCTTCCAACGAATATCACTAAACTTCGAGATCTCCATGTCATCCTCTGTAATAGGATACCCTATCGTTATTTGGATCCAAATGAACCAGTGGACTGTTT
 5 arg2_CS265           97.0%  92.3%     GGGATACACTTGTATTACAACACTGCCAACGAATATCACTAAACTTCGAGACCTCCATGTCATCCGCTGTAAAAGGAGAGCCTATTCTTATTTGGTTCCAAATGAACCAGTGCACTGTTT
 6 arg2_TAM428          97.5%  87.5%     GGGGTACACTTATATTACAACTCTGCCAACACAAATCACTAAACTTGAAGATCTCCGTGTCATTCGCTGTGATAGGAATGTCCCTAACTACTTGGATCCAGATGAACCAGTGCATTGTTT
 7 arg2_BTx642          97.5%  87.5%     GGGGTACACTTATATTACAACTCTGCCAACACAAATCACTAAACTTGAAGATCTCCGTGTCATTCGCTGTGATAGGAATGTCCCTAACTACTTGGATCCAGATGAACCAGTGCATTGTTT
 8 arg2_SC23            97.5%  87.5%     GGGGTACACTTATATTACAACTCTGCCAACACAAATCACTAAACTTGAAGATCTCCGTGTCATTCGCTGTGATAGGAATGTCCCTAACTACTTGGATCCAGATGAACCAGTGCATTGTTT
 9 arg2_IS9830          97.5%  87.5%     GGGGTACACTTATATTACAACTCTGCCAACACAAATCACTAAACTTGAAGATCTCCGTGTCATTCGCTGTGATAGGAATGTCCCTAACTACTTGGATCCAGATGAACCAGTGCATTGTTT
10 arg2_PQ434           97.5%  87.5%     GGGGTACACTTATATTACAACTCTGCCAACACAAATCACTAAACTTGAAGATCTCCGTGTCATTCGCTGTGATAGGAATGTCCCTAACTACTTGGATCCAGATGAACCAGTGCATTGTTT
11 arg2_IS18760         97.5%  87.5%     GGGGTACACTTATATTACAACTCTGCCAACACAAATCACTAAACTTGAAGATCTCCGTGTCATTCGCTGTGATAGGAATGTCCCTAACTACTTGGATCCAGATGAACCAGTGCATTGTTT
12 arg2_ICSV745         99.6%  89.1%     AGGGTATACTTATATTACAACTCTGCCAACACAAATCACTAAACTTGAAGATCTCCGTGCCATTCGCTGTGATAGGAATTTCCCTAACTACTTGGATCCAGATGAACCAGTGCATTGTTT
13 arg2_IS8525          99.6%  89.2%     AGGGTATACTTATATTACAACTCTGCCAACACAAATCACTAAACTTGAAGATCTCCATGCCATTCGCTGTGATAGGAATTTCCCTAACTACTTGGATCCAGATGAACCAGTGCATTGTTT
14 arg2_Malisor84-7     99.6%  89.1%     AGGGTATACTTATATTACAACTCTGCCAACACAAATCACTAAACTTGAAGATCTCCGTGCCATTCGCTGTGATAGGAATTTCCCTAACTACTTGGATCCAGATGAACCAGTGCATTGTTT
15 arg2_BTx623          99.6%  89.1%     AGGGTATACTTATATTACAACTCTGCCAACACAAATCACTAAACTTGAAGATCTCCGTGCCATTCGCTGTGATAGGAATTTCCCTAACTACTTGGATCCAGATGAACCAGTGCATTGTTT

                          cov    pid 2041      :         .         .         .         .         1         .         .         .         .         :         . 2160
 1 ARG2_SC328C         100.0% 100.0%     GTTTGGCACATTGCGCCTGCCATTCCTGTTAGCTGATTCACACAGCCGTGCCAGAGCAATTAATGAACTCCACATGGGCTGCTCTAGTGGTTGGTCCAGGACTGGTGGATATGGAGTGAG
 2 ARG2_Keller         100.0% 100.0%     GTTTGGCACATTGCGCCTGCCATTCCTGTTAGCTGATTCACACAGCCGTGCCAGAGCAATTAATGAACTCCACATGGGCTGCTCTAGTGGTTGGTCCAGGACTGGTGGATATGGAGTGAG
 3 ARG2_SC237          100.0% 100.0%     GTTTGGCACATTGCGCCTGCCATTCCTGTTAGCTGATTCACACAGCCGTGCCAGAGCAATTAATGAACTCCACATGGGCTGCTCTAGTGGTTGGTCCAGGACTGGTGGATATGGAGTGAG
 4 ARG2_Rio            100.0% 100.0%     GTTTGGCACATTGCGCCTGCCATTCCTGTTAGCTGATTCACACAGCCGTGCCAGAGCAATTAATGAACTCCACATGGGCTGCTCTAGTGGTTGGTCCAGGACTGGTGGATATGGAGTGAG
 5 arg2_CS265           97.0%  92.3%     GTTTGACACATTGCGCCTGCCATTCCTATTAGCTGATTCAGGCAGACGTGCCAGCGCAATTCGTGATATACACATGGGCTGCTCTAGTGGTTGGTCCAGGACTGGTGGAGATGGAGTGAG
 6 arg2_TAM428          97.5%  87.5%     GTTTGCCACA--------------------------------------------------------------CATGGGCTGCTCTAGTGGTTGGTCCAGAACTAGCAGAAATGGAGTGAG
 7 arg2_BTx642          97.5%  87.5%     GTTTGCCACA--------------------------------------------------------------CATGGGCTGCTCTAGTGGTTGGTCCAGAACTAGCAGAAATGGAGTGAG
 8 arg2_SC23            97.5%  87.5%     GTTTGCCACA--------------------------------------------------------------CATGGGCTGCTCTAGTGGTTGGTCCAGAACTAGCAGAAATGGAGTGAG
 9 arg2_IS9830          97.5%  87.5%     GTTTGCCACA--------------------------------------------------------------CATGGGCTGCTCTAGTGGTTGGTCCAGAACTAGCAGAAATGGAGTGAG
10 arg2_PQ434           97.5%  87.5%     GTTTGCCACA--------------------------------------------------------------CATGGGCTGCTCTAGTGGTTGGTCCAGAACTAGCAGAAATGGAGTGAG
11 arg2_IS18760         97.5%  87.5%     GTTTGCCACA--------------------------------------------------------------CATGGGCTGCTCTAGTGGTTGGTCCAGAACTAGCAGAAATGGAGTGAG
12 arg2_ICSV745         99.6%  89.1%     GTTTGCCACATTGCGCCTGCCAATCCTATTAGCTGATTCAAAAAGCCGTGACAGAGCAATTGGTGATCTACACATGGGCTGCTCTAGTGGTTGGTCCAGAACTAGCAGAAATGGAGTGAG
13 arg2_IS8525          99.6%  89.2%     GTTTGCCACATTGCGCCTGCCAATCCTATTAGCTGATTCAAAAAGCCGTGACAGAGCAATTGGTGATCTACACATGGGCTGCTCTAGTGGTTGGTCCAGAACTAGCAGAAATGGAGTGAG
14 arg2_Malisor84-7     99.6%  89.1%     GTTTGCCACATTGCGCCTGCCAATCCTATTAGCTGATTCAAAAAGCCGTGACAGAGCAATTGGTGATCTACACATGGGCTGCTCTAGTGGTTGGTCCAGAACTAGCAGAAATGGAGTGAG
15 arg2_BTx623          99.6%  89.1%     GTTTGCCACATTGCGCCTGCCAATCCTATTAGCTGATTCAAAAAGCCGTGACAGAGCAATTGGTGATCTACACATGGGCTGCTCTAGTGGTTGGTCCAGAACTAGCAGAAATGGAGTGAG

                          cov    pid 2161      .         .         .         2         .         .         .         .         :         .         .         . 2280
 1 ARG2_SC328C         100.0% 100.0%     GGTTCCAAGAGGAATTGGGAACTTAAAAGAGCTGCAGATATTAGAGTCTGTGGACATCAGAAGAACTAGCAGCAAAGCAGTTAAAGAGCTCGGGGAGCTAACCCGATTAAGAAAGTTAGC
 2 ARG2_Keller         100.0% 100.0%     GGTTCCAAGAGGAATTGGGAACTTAAAAGAGCTGCAGATATTAGAGTCTGTGGACATCAGAAGAACTAGCAGCAAAGCAGTTAAAGAGCTCGGGGAGCTAACCCGATTAAGAAAGTTAGC
 3 ARG2_SC237          100.0% 100.0%     GGTTCCAAGAGGAATTGGGAACTTAAAAGAGCTGCAGATATTAGAGTCTGTGGACATCAGAAGAACTAGCAGCAAAGCAGTTAAAGAGCTCGGGGAGCTAACCCGATTAAGAAAGTTAGC
 4 ARG2_Rio            100.0% 100.0%     GGTTCCAAGAGGAATTGGGAACTTAAAAGAGCTGCAGATATTAGAGTCTGTGGACATCAGAAGAACTAGCAGCAAAGCAGTTAAAGAGCTCGGGGAGCTAACCCGATTAAGAAAGTTAGC
 5 arg2_CS265           97.0%  92.3%     GGTTCCAAGAGGAATTGGGAACTTAAAAGAGTTGCAGATACTAGAGTCTGTGGACATCAGAAGAACTAGCAGCAAAGCAATTAAAGAGCTCGGGGAGCTGACCCGATTAAGAAAACTAGC
 6 arg2_TAM428          97.5%  87.5%     GGTTCCAAGAGGAATTGGCAACTTAAAAGAGTTGCAGATACTAGAGCATGTGGACATTAGAAGAACTAGCAGCAAAGCAGTTAAAGAGCTCGGGGAGCTGACTCGATTAAGAAAACTAGC
 7 arg2_BTx642          97.5%  87.5%     GGTTCCAAGAGGAATTGGCAACTTAAAAGAGTTGCAGATACTAGAGCATGTGGACATTAGAAGAACTAGCAGCAAAGCAGTTAAAGAGCTCGGGGAGCTGACTCGATTAAGAAAACTAGC
 8 arg2_SC23            97.5%  87.5%     GGTTCCAAGAGGAATTGGCAACTTAAAAGAGTTGCAGATACTAGAGCATGTGGACATTAGAAGAACTAGCAGCAAAGCAGTTAAAGAGCTCGGGGAGCTGACTCGATTAAGAAAACTAGC
 9 arg2_IS9830          97.5%  87.5%     GGTTCCAAGAGGAATTGGCAACTTAAAAGAGTTGCAGATACTAGAGCATGTGGACATTAGAAGAACTAGCAGCAAAGCAGTTAAAGAGCTCGGGGAGCTGACTCGATTAAGAAAACTAGC
10 arg2_PQ434           97.5%  87.5%     GGTTCCAAGAGGAATTGGCAACTTAAAAGAGTTGCAGATACTAGAGCATGTGGACATTAGAAGAACTAGCAGCAAAGCAGTTAAAGAGCTCGGGGAGCTGACTCGATTAAGAAAACTAGC
11 arg2_IS18760         97.5%  87.5%     GGTTCCAAGAGGAATTGGCAACTTAAAAGAGTTGCAGATACTAGAGCATGTGGACATTAGAAGAACTAGCAGCAAAGCAGTTAAAGAGCTCGGGGAGCTGACTCGATTAAGAAAACTAGC
12 arg2_ICSV745         99.6%  89.1%     GGTTCCAAGAGGAATTGGCAACTTAAAAGAGTTGCAGATACTAGAGCGTGTGGACATTAGAAGAACTAGCAGCAATGCAGTTAAAGAGCTCGGGGAGCTCACCCGATTAAGAAAACTAGC
13 arg2_IS8525          99.6%  89.2%     GGTTCCAAGAGGAATTGGCAACTTAAAAGAGTTGCAGATACTAGAGCGTGTGGACATTAGAAGAACTAGCAGCAATGCAGTTAAAGAGCTTGGGGAGCTCACCCGATTAAGAAAACTAGC
14 arg2_Malisor84-7     99.6%  89.1%     GGTTCCAAGAGGAATTGGCAACTTAAAAGAGTTGCAGATACTAGAGCGTGTGGACATTAGAAGAACTAGCAGCAATGCAGTTAAAGAGCTCGGGGAGCTCACCCGATTAAGAAAACTAGC
15 arg2_BTx623          99.6%  89.1%     GGTTCCAAGAGGAATTGGCAACTTAAAAGAGTTGCAGATACTAGAGCGTGTGGACATTAGAAGAACTAGCAGCAATGCAGTTAAAGAGCTCGGGGAGCTCACCCGATTAAGAAAACTAGC

                          cov    pid 2281      .         3         .         .         .         .         :         .         .         .         4 2400
 1 ARG2_SC328C         100.0% 100.0%     CATTGGAACAGACTGGGCTTCCAAGAAAAAGTGTAAGATACTTTGTAAATCCATTGAGAAACTCTCTTCCCTTCGTTCTCTCACTGTGCGGGCCGGCGAACACCAGGGTAGAGGACTTGG
 2 ARG2_Keller         100.0% 100.0%     CATTGGAACAGACTGGGCTTCCAAGAAAAAGTGTAAGATACTTTGTAAATCCATTGAGAAACTCTCTTCCCTTCGTTCTCTCACTGTGCGGGCCGGCGAACACCAGGGTAGAGGACTTGG
 3 ARG2_SC237          100.0% 100.0%     CATTGGAACAGACTGGGCTTCCAAGAAAAAGTGTAAGATACTTTGTAAATCCATTGAGAAACTCTCTTCCCTTCGTTCTCTCACTGTGCGGGCCGGCGAACACCAGGGTAGAGGACTTGG
 4 ARG2_Rio            100.0% 100.0%     CATTGGAACAGACTGGGCTTCCAAGAAAAAGTGTAAGATACTTTGTAAATCCATTGAGAAACTCTCTTCCCTTCGTTCTCTCACTGTGCGGGCCGGCGAACACCAGGGTAGAGGACTTGG
 5 arg2_CS265           97.0%  92.3%     CATAGGAACAAACGGGGCTTCCAAGAAAAAGTGTAAGATACTTTGTGAATCCATTGAGAAGCTCTCTTCCCTTCGTTCTCTATCTGTAGAGGCCGGCGCAAACCAGGATAGAGGACTTGG
 6 arg2_TAM428          97.5%  87.5%     CACGGGAACAACCGGGGCATCCAAGAAAAAGTGTAAGATACTTTGTGAATCCATTGAGAAGCTCTCTTTCCTTCATTCTCTCACTATATGGGCCGGCGAAAACCAGGATAGAGGACTTGG
 7 arg2_BTx642          97.5%  87.5%     CACGGGAACAACCGGGGCATCCAAGAAAAAGTGTAAGATACTTTGTGAATCCATTGAGAAGCTCTCTTTCCTTCATTCTCTCACTATATGGGCCGGCGAAAACCAGGATAGAGGACTTGG
 8 arg2_SC23            97.5%  87.5%     CACGGGAACAACCGGGGCATCCAAGAAAAAGTGTAAGATACTTTGTGAATCCATTGAGAAGCTCTCTTTCCTTCATTCTCTCACTATATGGGCCGGCGAAAACCAGGATAGAGGACTTGG
 9 arg2_IS9830          97.5%  87.5%     CACGGGAACAACCGGGGCATCCAAGAAAAAGTGTAAGATACTTTGTGAATCCATTGAGAAGCTCTCTTTCCTTCATTCTCTCACTATATGGGCCGGCGAAAACCAGGATAGAGGACTTGG
10 arg2_PQ434           97.5%  87.5%     CACGGGAACAACCGGGGCATCCAAGAAAAAGTGTAAGATACTTTGTGAATCCATTGAGAAGCTCTCTTTCCTTCATTCTCTCACTATATGGGCCGGCGAAAACCAGGATAGAGGACTTGG
11 arg2_IS18760         97.5%  87.5%     CACGGGAACAACCGGGGCATCCAAGAAAAAGTGTAAGATACTTTGTGAATCCATTGAGAAGCTCTCTTTCCTTCATTCTCTCACTATATGGGCCGGCGAAAACCAGGATAGAGGACTTGG
12 arg2_ICSV745         99.6%  89.1%     CACGGGAACAACCGGGGCTTCCAAGAAAAAGTGTAAGATACTTTGTGAATCCATTGAGAAGCTCTCTTCCCTTCGTTCTCTCACTGTGTGGGCCGGTGAAAACCAGGATAGAGGACTTGG
13 arg2_IS8525          99.6%  89.2%     CACGGGAACAACCGGGGCTTCCAAGAAAAAGTGTAAGATACTTTGTGAATCCATTGAGAAGCTCTCTTCCCTTCGTTCTCTCACTGTGTGGGCCGGTGAAAACCAGGATAGAGGACTTGG
14 arg2_Malisor84-7     99.6%  89.1%     CACGGGAACAACCGGGGCTTCCAAGAAAAAGTGTAAGATACTTTGTGAATCCATTGAGAAGCTCTCTTCCCTTCGTTCTCTCACTGTGTGGGCCGGTGAAAACCAGGATAGAGGACTTGG
15 arg2_BTx623          99.6%  89.1%     CACGGGAACAACCGGGGCTTCCAAGAAAAAGTGTAAGATACTTTGTGAATCCATTGAGAAGCTCTCTTCCCTTCGTTCTCTCACTGTGTGGGCCGGTGAAAACCAGGATAGAGGACTTGG
```


cov pid 2401 . . . . : . . . . 5 . . 2520
1 ARG2_SC328C 100.0% 100.0%
2 ARG2_Keller 100.0% 100.0%
3 ARG2_SC237 100.0% 100.0%
4 ARG2_Rio 100.0% 100.0%
5 arg2_CS265 97.0% 92.3%
6 arg2_TAM428 97.5% 87.5%
7 arg2_BTx642 97.5% 87.5%
8 arg2_SC23 97.5% 87.5%
9 arg2_IS9830 97.5% 87.5%
10 arg2_PQ434 97.5% 87.5%
11 arg2_IS18760 97.5% 87.5%
12 arg2_ICSV745 99.6% 89.1%
13 arg2_IS8525 99.6% 89.2%
14 arg2_Malisor84-7 99.6% 89.1%
15 arg2_BTx623 99.6% 89.1%
cov pid 2521 . . : 6 2640
cov pid 2641 : . . . . 7 . . . . : . 2760
cov pid 2761 . . . 8 . . . . : . . 2880

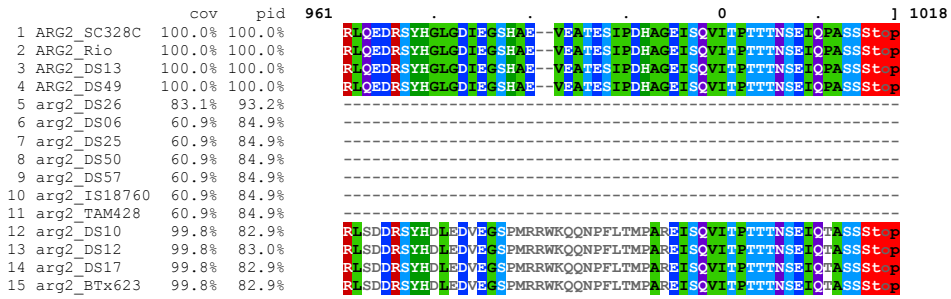


Data S1. Alignment of the *ARG2* nucleotide sequences from 15 sorghum lines.

The *ARG2* coding sequences in four resistant (SC328C, Keller, SC237 and Rio) and 11 susceptible lines were aligned. The alignment shows four different ARG2 alleles. *ARG2* allele in SC328C is similar to that in Keller, SC237 and Rio. The susceptibility ARG2 allele from SC265 is a unique allele. TAM428, BTx642, SC23, IS9830, PQ434 and IS18760 show the same allele. ICSV745, IS8525, Malisor84-7 carry the susceptibility allele like BTx623. The premature stop codons are shaded in red. The premature stop codons are shaded in red. These amino acid sequences were aligned using “multiple sequence alignment” tools: kalign [www.ebi.ac.uk/Tools/msa/kalign/] and mview [www.ebi.ac.uk /Tools/msa/mview/].

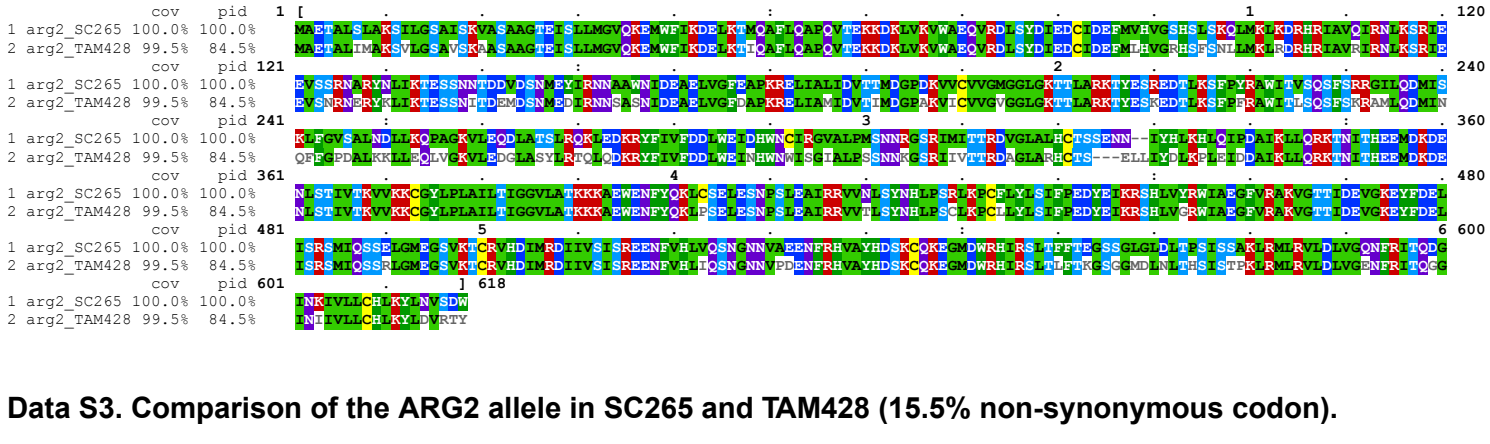

cov pid
1 ARG2_SC328C 100.0% 100.0%
2 ARG2_Rio 100.0% 100.0%
3 ARG2_DS13 100.0% 100.0%
4 ARG2_DS49 100.0% 100.0%
5 arg2_DS26 83.1% 93.2%
6 arg2_DS06 60.9% 84.9%
7 arg2_DS25 60.9% 84.9%
8 arg2_DS50 60.9% 84.9%
9 arg2_DS57 60.9% 84.9%
10 arg2_IS18760 60.9% 84.9%
11 arg2_TAM428 60.9% 84.9%
12 arg2_DS10 99.8% 82.9%
13 arg2_DS12 99.8% 83.0%
14 arg2_DS17 99.8% 82.9%
15 arg2_BTx623 99.8% 82.9%
P-Loop/Kinase 1a
RNBS-A
NBS
Walker B
RNBS-B

cov pid
481 500 600
1 ARG2_SC328C 100.0% 100.0%
2 ARG2_Rio 100.0% 100.0%
3 ARG2_DS13 100.0% 100.0%
4 ARG2_DS49 100.0% 100.0%
5 arg2_DS26 83.1% 93.2%
6 arg2_DS06 60.9% 84.9%
7 arg2_DS25 60.9% 84.9%
8 arg2_DS50 60.9% 84.9%
9 arg2_DS57 60.9% 84.9%
10 arg2_IS18760 60.9% 84.9%
11 arg2_TAM428 60.9% 84.9%
12 arg2_DS10 99.8% 82.9%
13 arg2_DS12 99.8% 83.0%
14 arg2_DS17 99.8% 82.9%
15 arg2_BTx623 99.8% 82.9%
MHD
cov pid
601 700 720
721 8 840
841 9 960

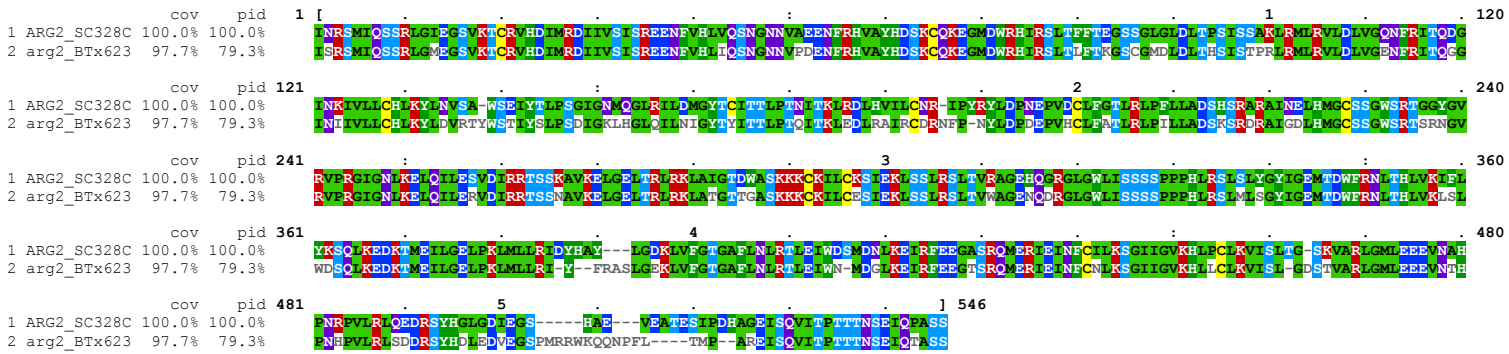


Data S2. Alignment of the *ARG2* amino acid sequences in 15 sorghum lines.

The ARG2 amino acid sequences in four resistant (SC328C, Keller, SC237 and Rio) and 11 susceptible lines were aligned. The alignment shows four different ARG2 alleles. *ARG2* allele in SC328C is similar to that in Keller, SC237 and Rio. The susceptibile ARG2 allele from SC265 is a unique allele. TAM428, BTx642, SC23, IS9830, PQ434 and IS18760 show the same allele. ICSV745, IS8525, Malisor84-7 carry the susceptible allele like BTx623. The premature stop codons are shaded in red. These deduced amino acid sequences were aligned using “multiple sequence alignment” tools: kalign [www.ebi.ac.uk/Tools/msa/kalign/] and mview [www.ebi.ac.uk /Tools/msa/mview/].



Data S3. Comparison of the ARG2 allele in SC265 and TAM428 (15.5% non-synonymous codon).



Data S4. Comparison of the amino acid sequences of the LRR domain of ARG2 in SC328C and BTx623.