Supplemental Data

Variable switching rates of malaria virulence genes are associated with chromosomal position

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Supplemental Data

Figure Legends

Figure S1. Transcriptional analysis of bulk NF54 culture used for second limiting dilution experiment .

Transcriptional analysis of the unselected NF 54 bulk culture again reveals favored expression of central *var* genes located on chromosome 4. As in Figure 1 A the central *var* locus PFD1005c is the most actively transcribed *var* gene.

Figure S2. Overview of wild type NF 54 clone *var* transcriptional analysis. 10 clones were generated from the original NF54 culture and transcriptional analysis was performed at time points ranging from 6 to 28 weeks after the initial cloning experiment. Cloning by limiting dilution was performed on 2 separate occasions (see materials and methods). Clones G6, D2, F6 and A6 are in parenthesis because they expressed the same gene.

Figure S3. Overview of *var* gene transcriptional analysis in transgenic parasites carrying the blasticidin-S-deaminase selectable marker gene at different chromosomal locations. The diagram shows the strategy used to isolate different parasite populations, which were then grown for different time periods either with or without selection with blasticidin. Addition of blasticidin to the culture media selects for expression of a single, transgenic *var* gene and consequent silencing of all other *var* genes in the parasite genome. Removal of blasticidin pressure allows the parasites to switch *var* expression freely.

Figure S 1

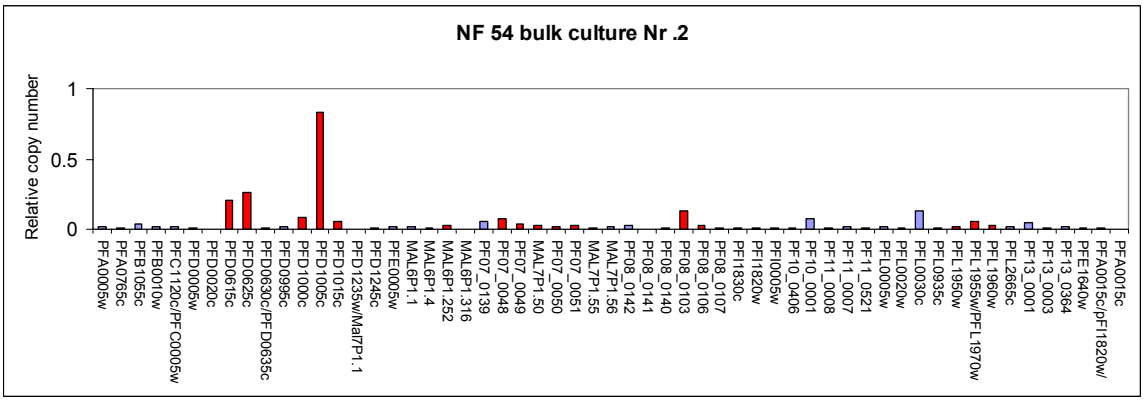
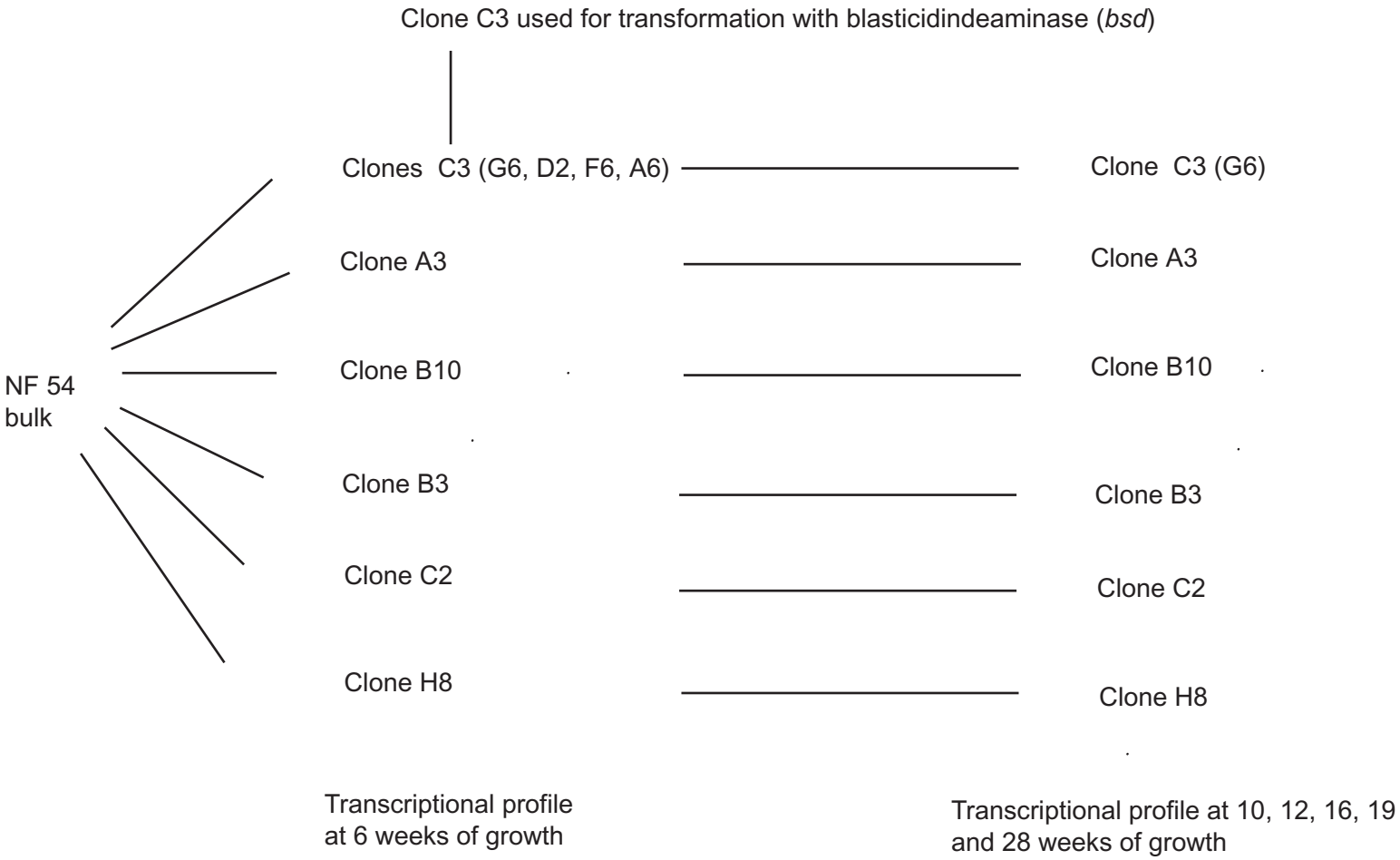
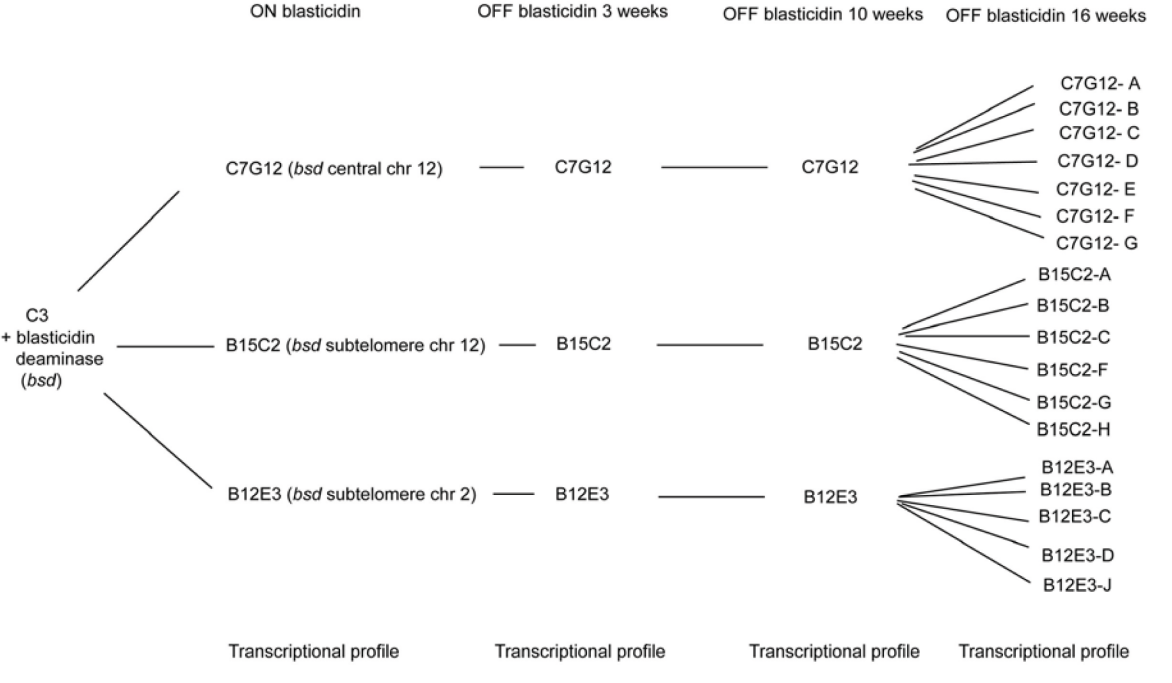

NF 54 bulk culture Nr .2
Relative copy number
1
0.5
0
PFA0005w
PFA0765c
PFB1055c
PFB0010w
PFC1120c/PFC0005w
PFD0005w
PFD0020c
PFD0615c
PFD0625c
PFD0630c/PFD0635c
PFD0995c
PFD1000c
PFD1005c
PFD1015c
PFD1235w/Mal7P1.1
PFD1245c
PFE0005w
MAL6P1.1
MAL6P1.4
MAL6P1.252
MAL6P1.316
PF07_0139
PF07_0048
PF07_0049
MAL7P1.50
PF07_0050
PF07_0051
MAL7P1.55
MAL7P1.56
PF08_0142
PF08_0141
PF08_0140
PF08_0103
PF08_0106
PF08_0107
PFI1830c
PFI1820w
PFI0005w
PF10_0406
PF10_0001
PF11_0008
PF11_0007
PF11_0521
PFL0005w
PFL0020w
PFL0030c
PFL0935c
PFL1950w
PFL1955w/PFL1970w
PFL1960w
PFL2665c
PF13_0001
PF13_0003
PF13_0364
PFE1640w
PFA0015c/pFI1820w/
PFA0015c

Figure S2


Clone C3 used for transformation with blasticidindeaminase (*bsd*)
Clones C3 (G6, D2, F6, A6)
Clone C3 (G6)
Clone A3
Clone A3
NF 54
bulk
Clone B10
Clone B10
Clone B3
Clone B3
Clone C2
Clone C2
Clone H8
Clone H8
Transcriptional profile
at 6 weeks of growth
Transcriptional profile at 10, 12, 16, 19
and 28 weeks of growth


ON blasticidin
OFF blasticidin 3 weeks
OFF blasticidin 10 weeks
OFF blasticidin 16 weeks
C3
+ blasticidin
deaminase
(bsd)
C7G12 (bsd central chr 12)
C7G12
C7G12
C7G12- A
C7G12- B
C7G12- C
C7G12- D
C7G12- E
C7G12- F
C7G12- G
B15C2 (bsd subtelomere chr 12)
B15C2
B15C2
B15C2-A
B15C2-B
B15C2-C
B15C2-F
B15C2-G
B15C2-H
B12E3 (bsd subtelomere chr 2)
B12E3
B12E3
B12E3-A
B12E3-B
B12E3-C
B12E3-D
B12E3-J
Transcriptional profile
Transcriptional profile
Transcriptional profile
Transcriptional profile