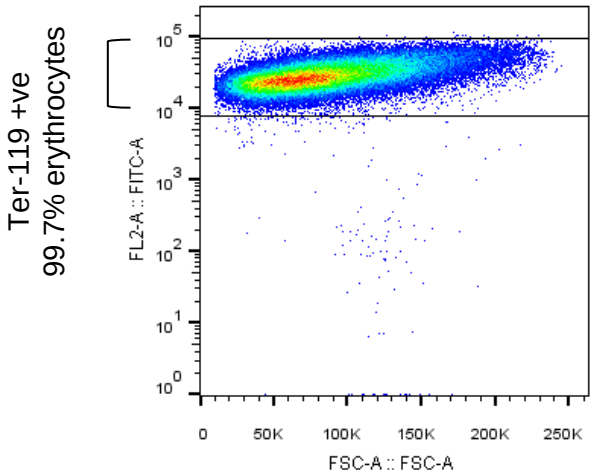
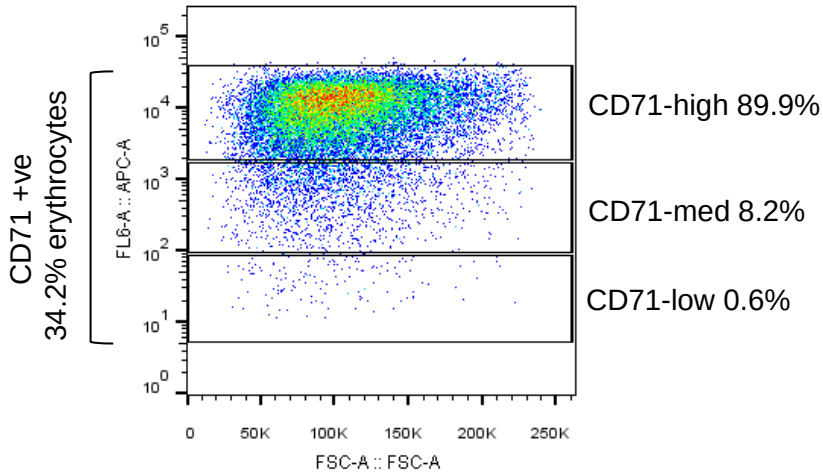
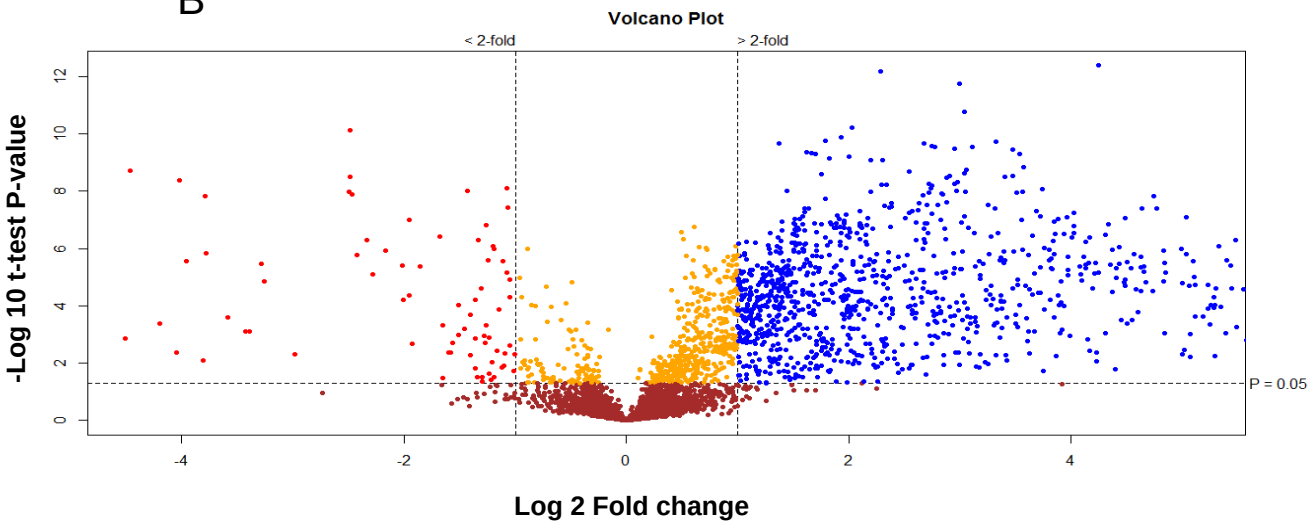
A

Fig. A


Ter-119 +ve
99.7% erythrocytes
FL2-A :: FITC-A
FSC-A :: FSC-A
0
50K
100K
150K
200K
250K


CD71 +ve
34.2% erythrocytes
FL6-A :: APC-A
FSC-A :: FSC-A
CD71-high 89.9%
CD71-med 8.2%
CD71-low 0.6%

B


Volcano Plot
< 2-fold
> 2-fold
-Log 10 t-test P-value
Log 2 Fold change
P = 0.05

C

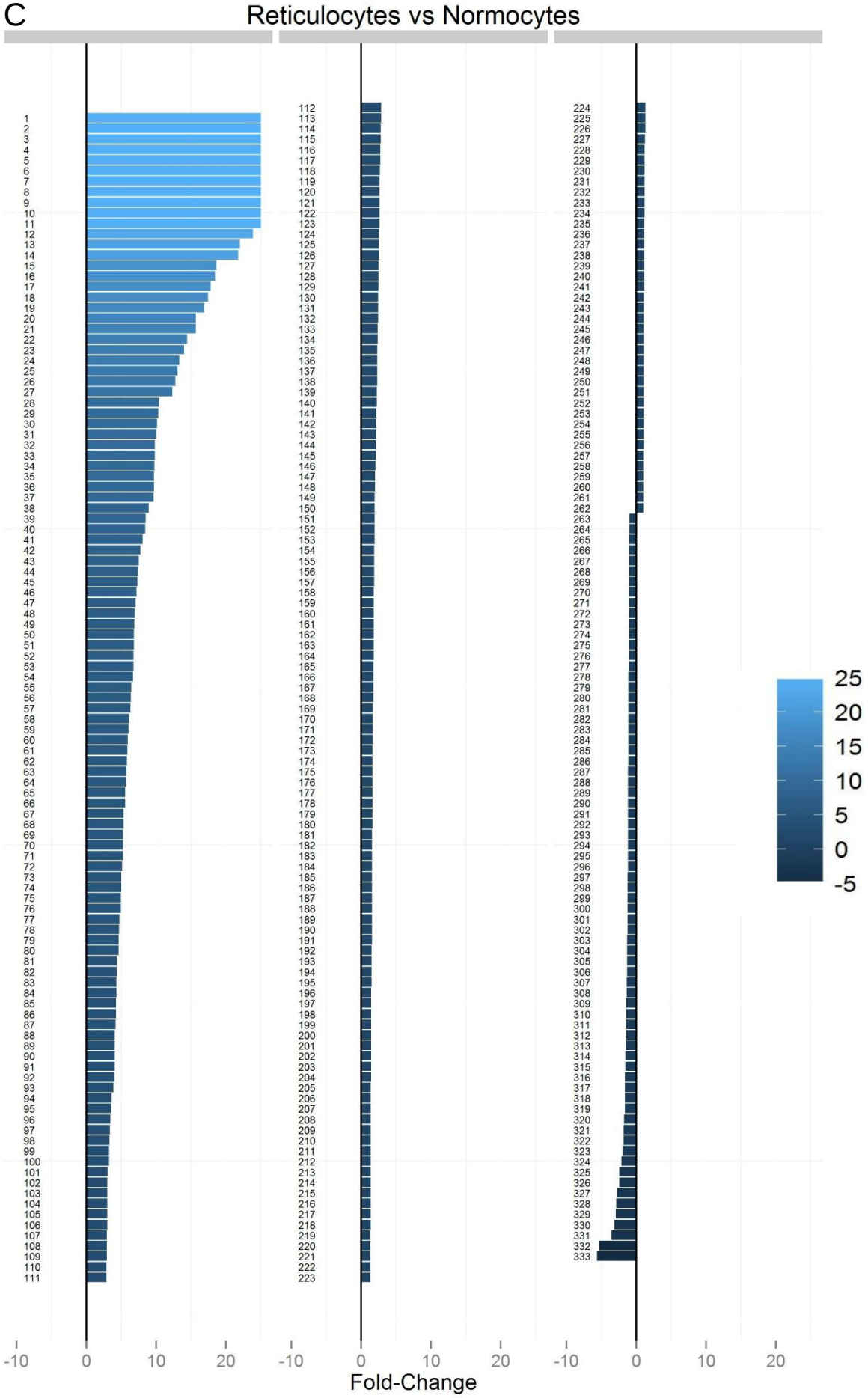
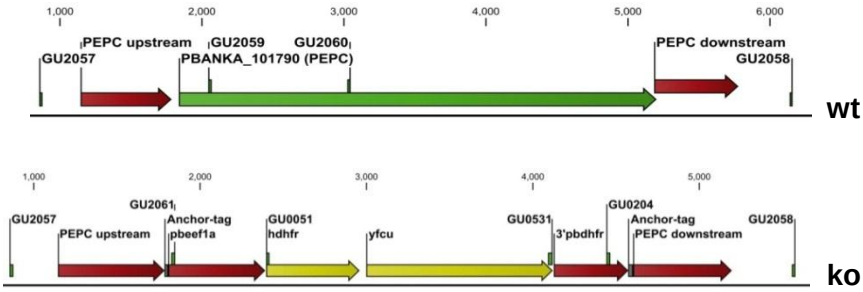

Reticulocytes vs Normocytes
Fold-Change
-10
0
10
20
25
20
15
10
5
0
-5

Fig. B

A

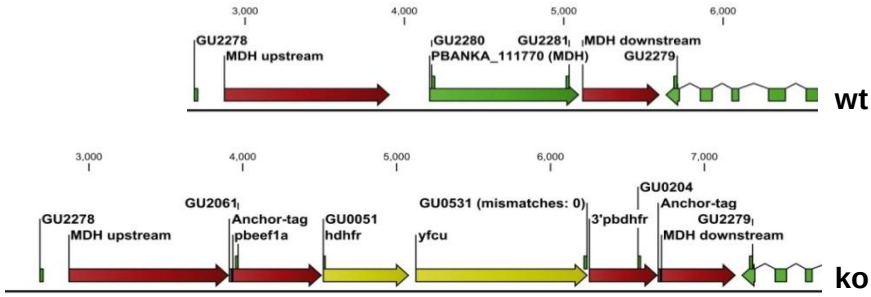
(i) *pepc*$^{-}$ (PBANKA_101790)

Primers	Product	Size
GU2057+GU2061	5' integration	1kb
GU0204+GU2058	3' integration	1.1kb
GU2059+GU2060	ORF	1kb



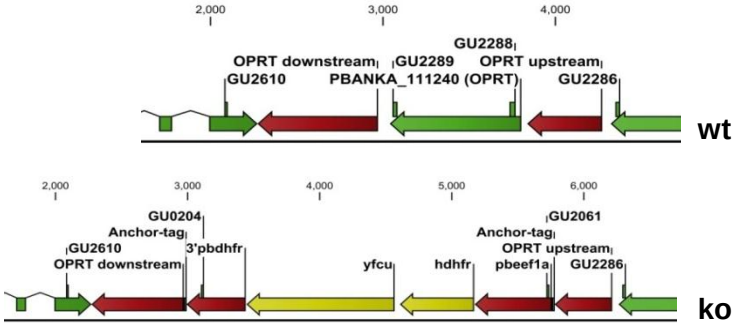
(ii) *mdh*$^{-}$ (PBANKA_111770)

Primers	Product	Size
GU2278+GU2061	5' integration	1.3kb
GU0204+GU2279	3' integration	0.75kb
GU2280+GU2281	ORF	0.87kb



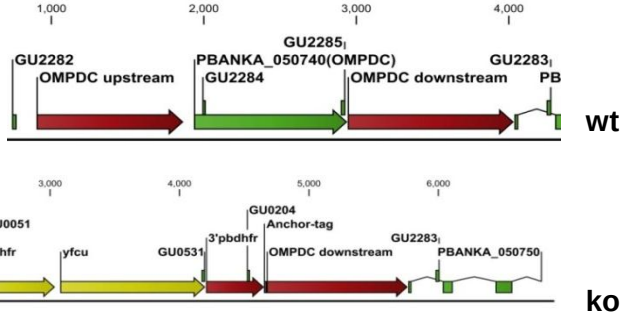
(iii) *oprt*$^{-}$ (PBANKA_111240)

Primers	Product	Size
GU2286+GU2061	5' integration	0.6kb
GU0204+GU2610	3' integration	1.0kb
GU2288+GU2289	ORF	0.7kb



(iv) *ompdc*$^{-}$ (PBANKA_050740)

Primers	Product	Size
GU2282+GU2061	5' integration	1.2kb
GU0204+GU2283	3' integration	1.4kb
GU2284+GU2285	ORF	0.9kb



B

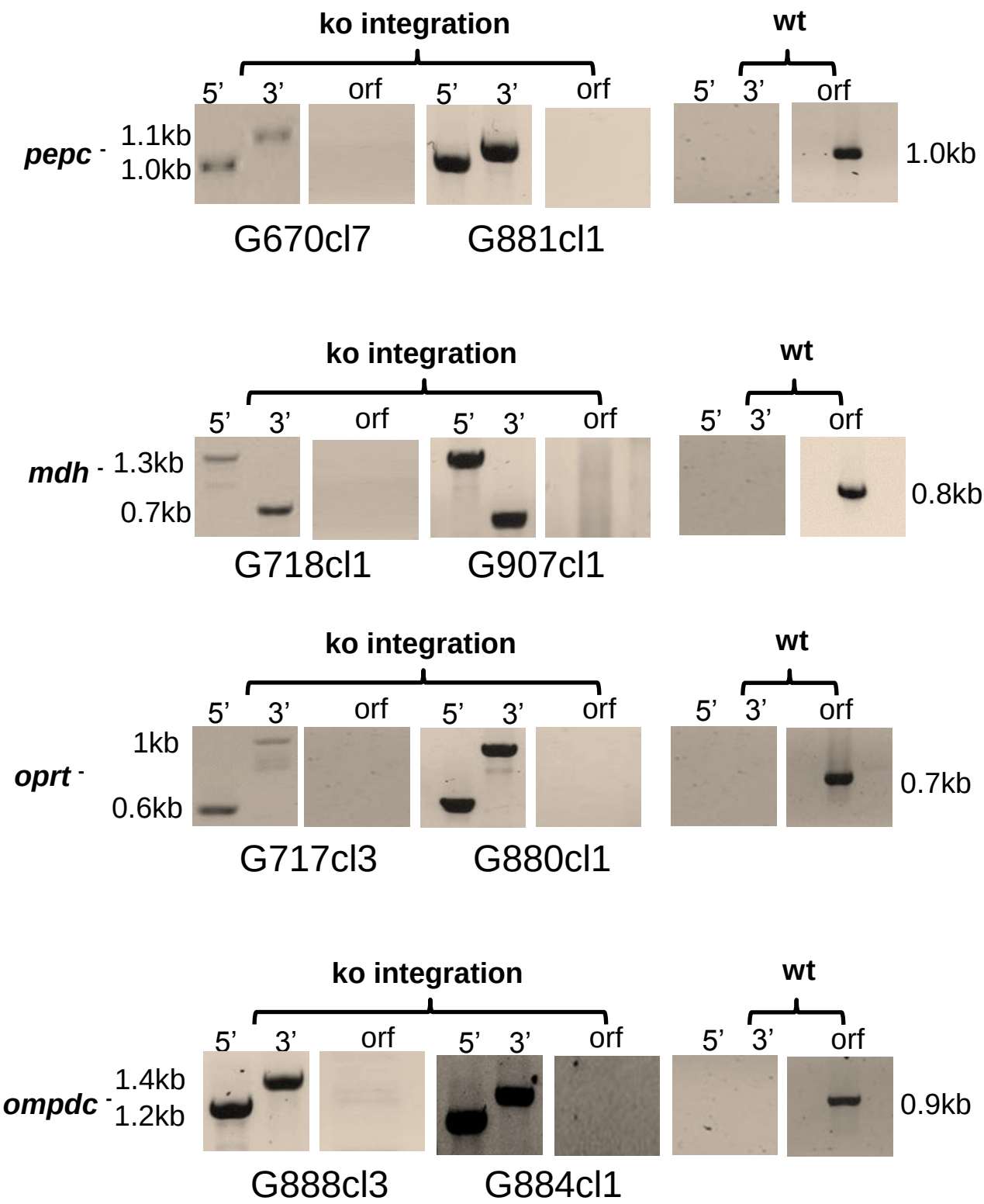

ko integration
wt
5'
3'
orf
5'
3'
orf
5'
3'
orf
pepc -
1.1kb
1.0kb
1.0kb
G670cl7
G881cl1
ko integration
wt
5'
3'
orf
5'
3'
orf
5'
3'
orf
mdh -
1.3kb
0.7kb
0.8kb
G718cl1
G907cl1
ko integration
wt
5'
3'
orf
5'
3'
orf
5'
3'
orf
oprt -
1kb
0.6kb
0.7kb
G717cl3
G880cl1
ko integration
wt
5'
3'
orf
5'
3'
orf
5'
3'
orf
ompdc -
1.4kb
1.2kb
0.9kb
G888cl3
G884cl1

Fig. C

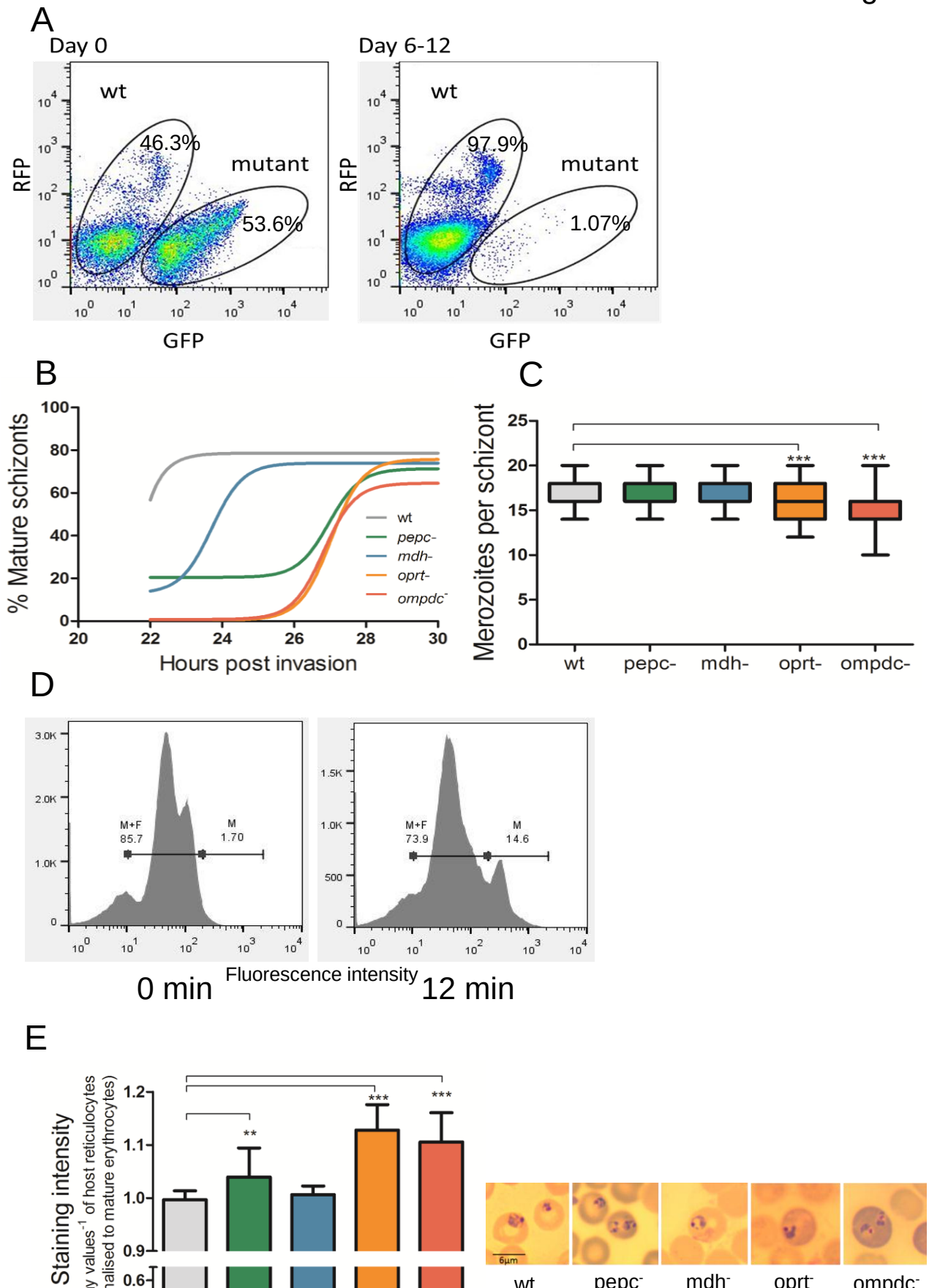

A
Day 0
Day 6-12
wt
46.3%
mutant
53.6%
97.9%
1.07%
RFP
GFP
B
% Mature schizonts
Hours post invasion
wt
pepc-
mdh-
oprt-
ompdc-
C
Merozoites per schizont
***
wt
pepc-
mdh-
oprt-
ompdc-
D
M+F
85.7
M
1.70
M+F
73.9
M
14.6
0 min
Fluorescence intensity
12 min
E
Staining intensity
(Gray values⁻¹ of host reticulocytes normalised to mature erythrocytes)
**
***
wt
pepc-
mdh-
oprt-
ompdc-
6µm

Fig. D

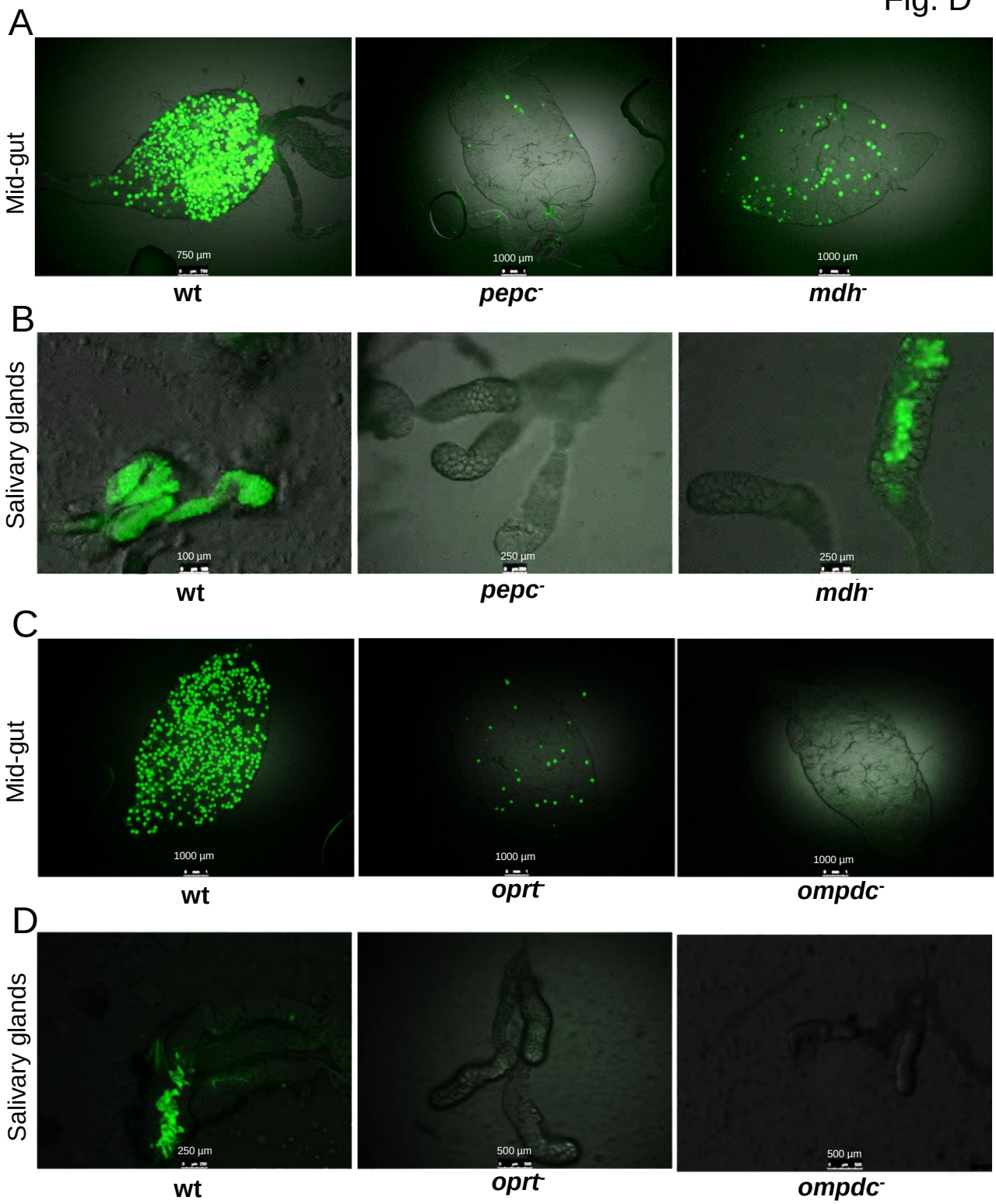

A
Mid-gut
750 µm
1000 µm
1000 µm
wt
pepc-
mdh-
B
Salivary glands
100 µm
250 µm
250 µm
wt
pepc-
mdh-
C
Mid-gut
1000 µm
1000 µm
1000 µm
wt
oprt-
ompdc-
D
Salivary glands
250 µm
500 µm
500 µm
wt
oprt-
ompdc-

Fig. E

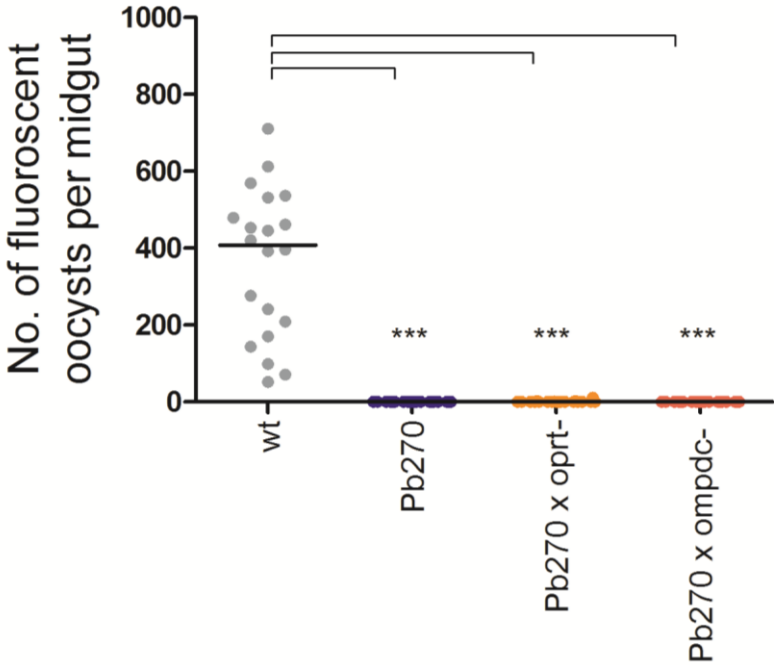
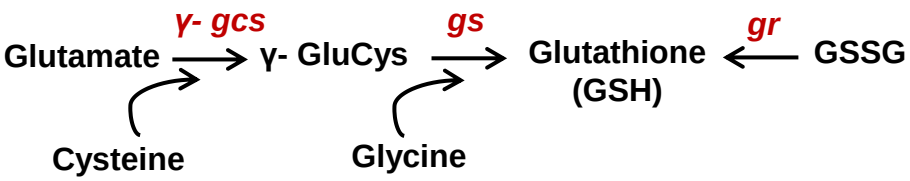
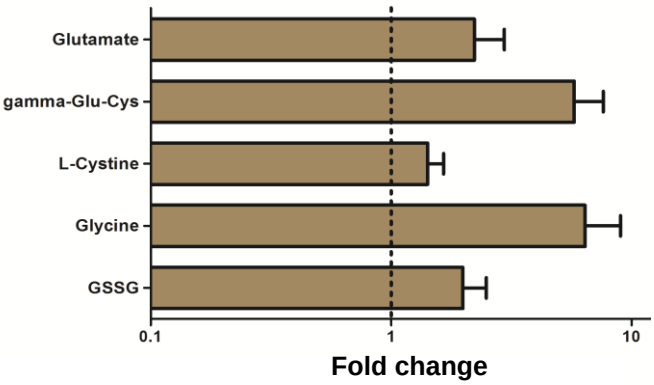


Fig. F

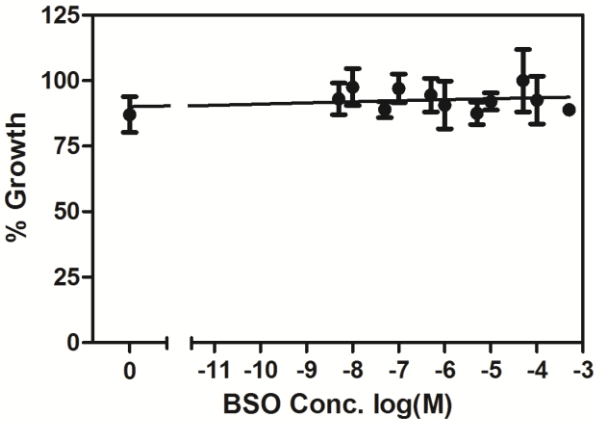
A



B



C



Not checked

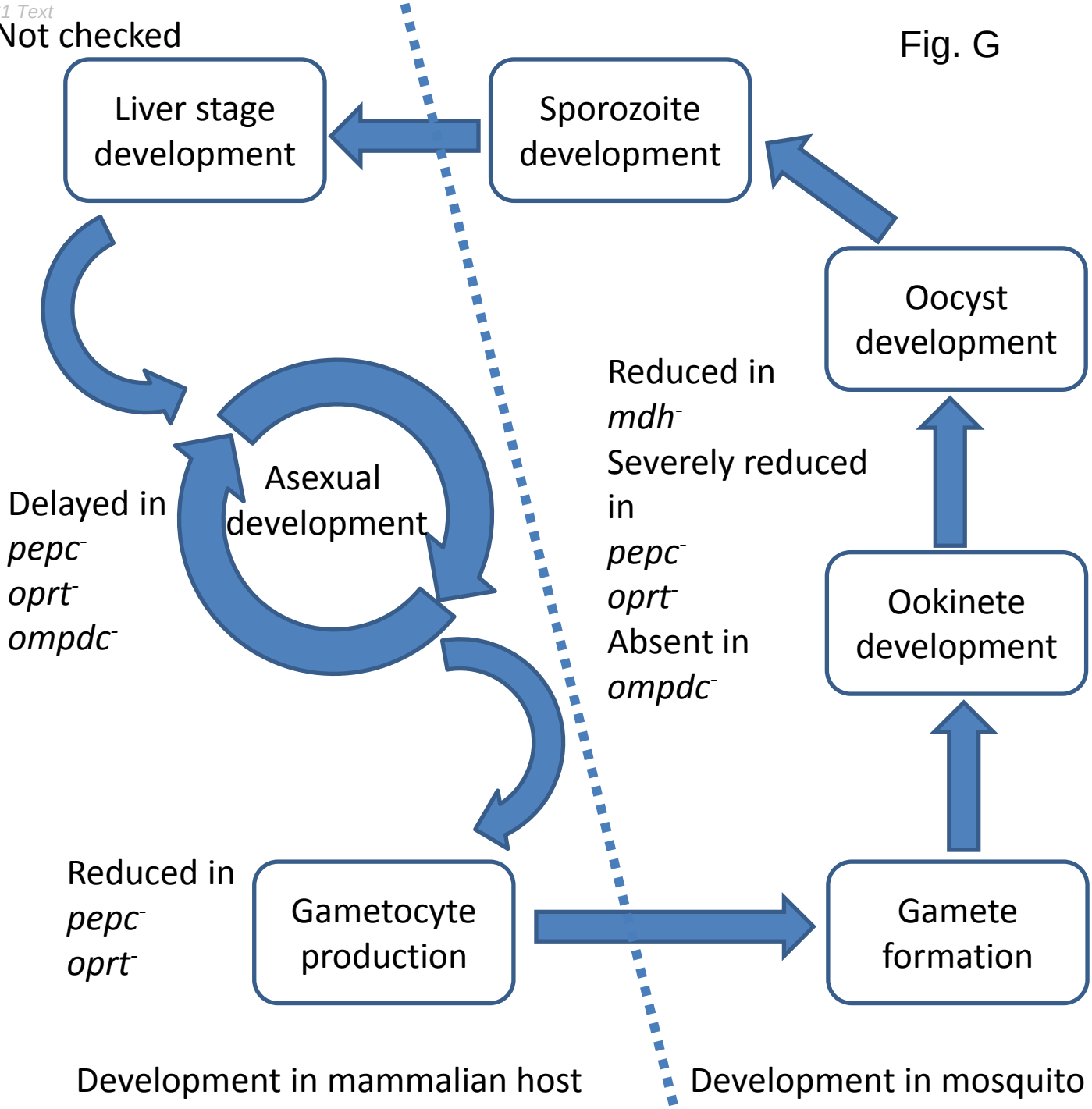



Fig. G