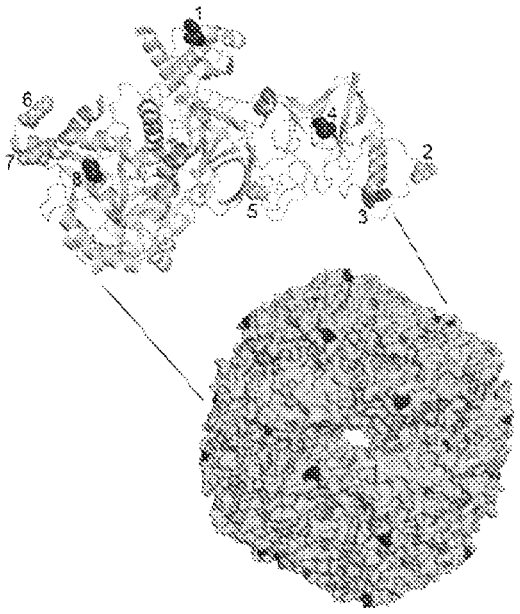
a



b

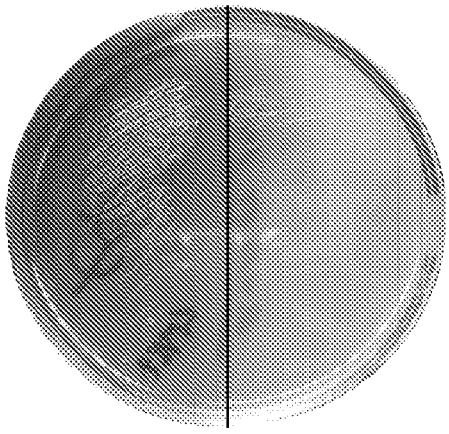
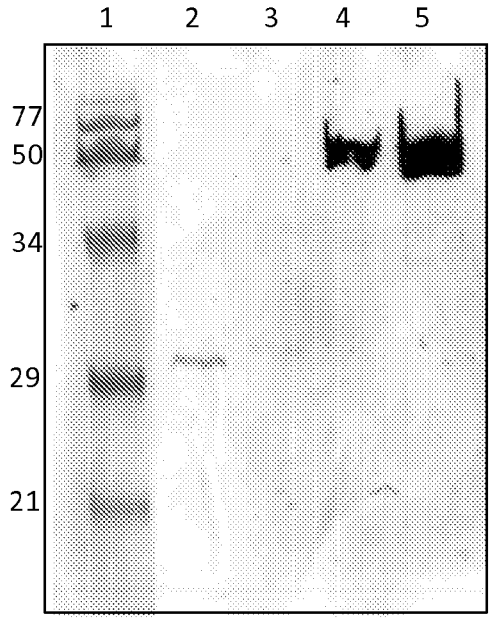


Figure 1

a


1
2
3
4
5
77
50
34
29
21
*

b

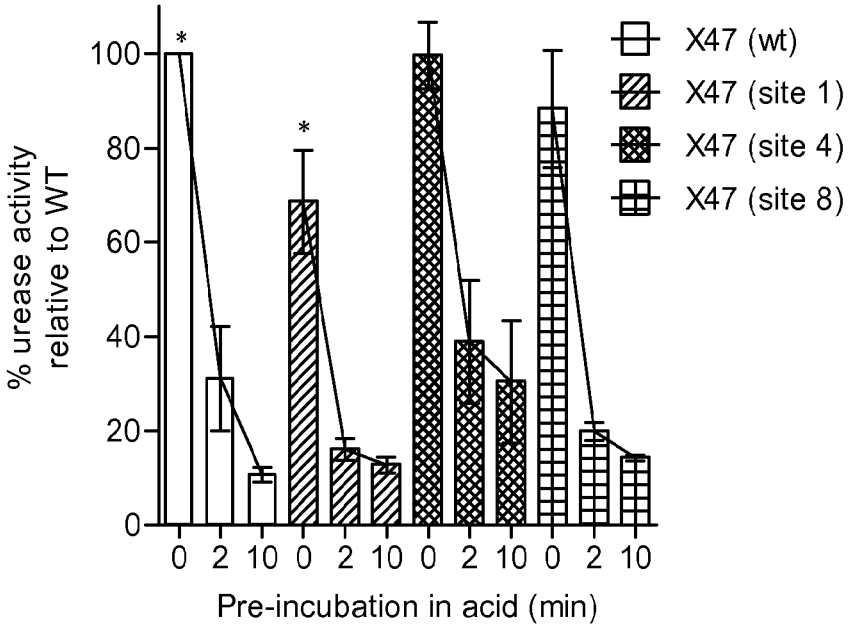

% urease activity relative to WT
100
80
60
40
20
0
*
*
0 2 10 0 2 10 0 2 10 0 2 10
Pre-incubation in acid (min)
X47 (wt)
X47 (site 1)
X47 (site 4)
X47 (site 8)

Figure 2

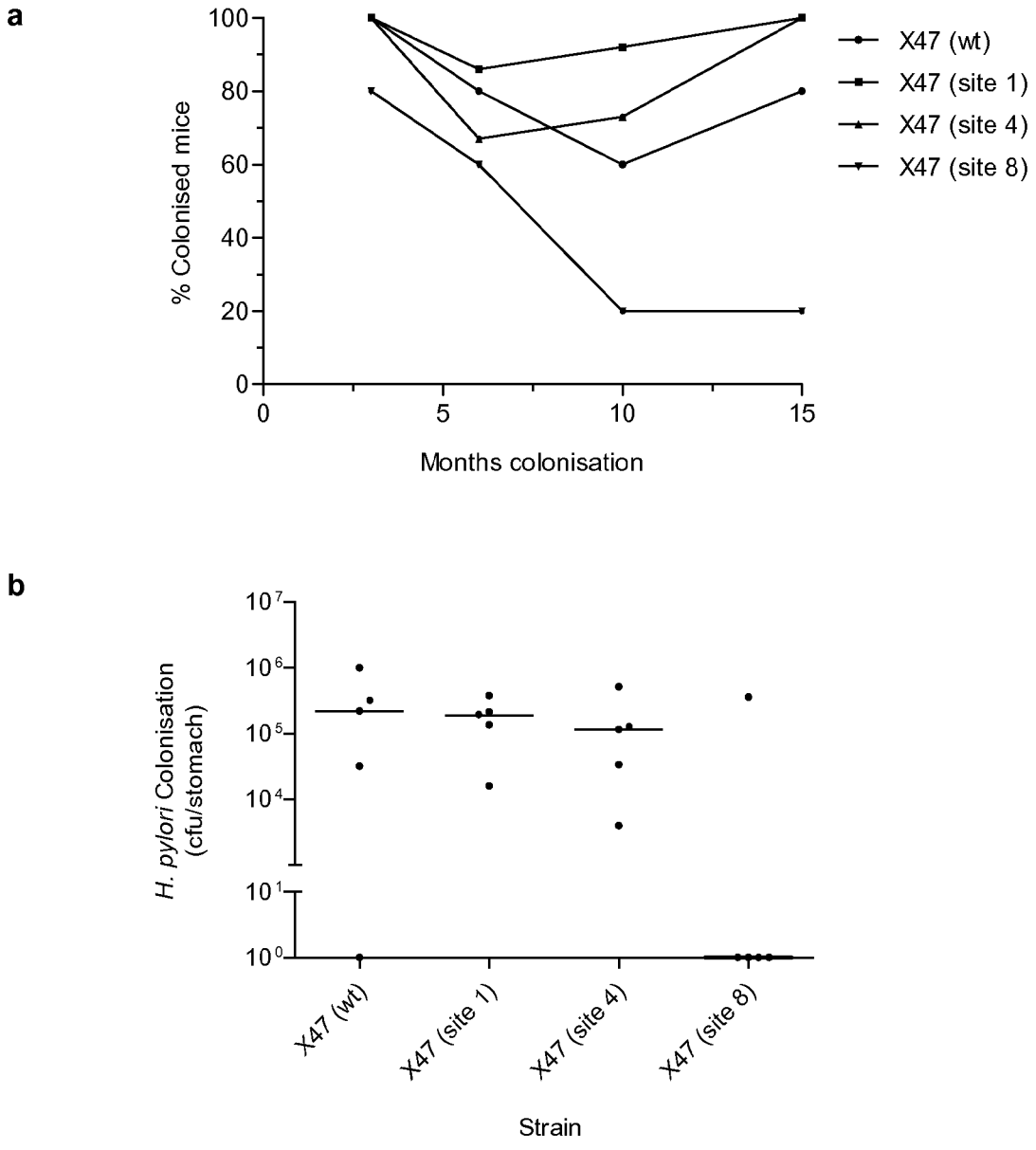
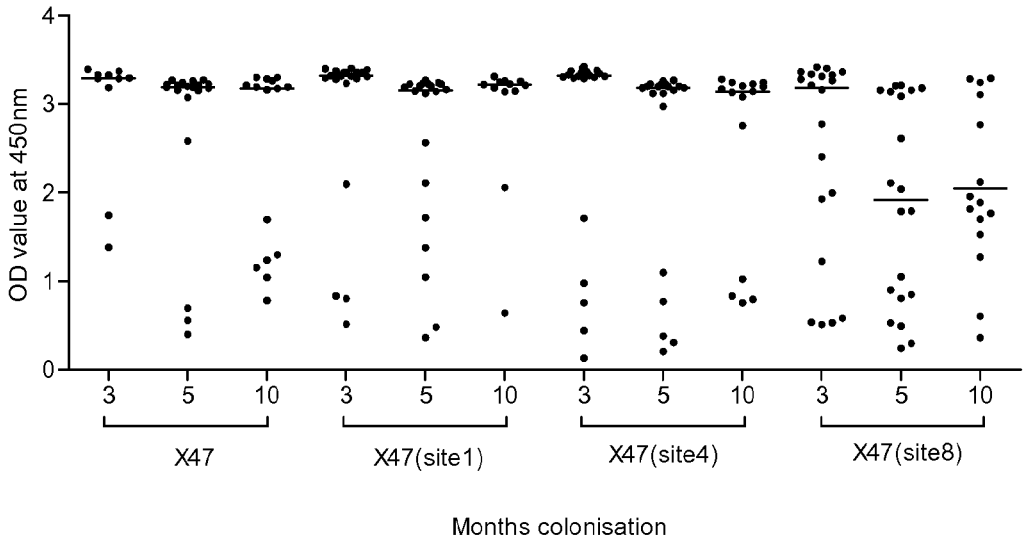

a
100
80
60
40
20
0
% Colonised mice
0
5
10
15
Months colonisation
X47 (wt)
X47 (site 1)
X47 (site 4)
X47 (site 8)
b
10^7
10^6
10^5
10^4
10^1
10^0
H. pylori Colonisation (cfu/stomach)
X47 (wt)
X47 (site 1)
X47 (site 4)
X47 (site 8)
Strain

Figure 3

c



d

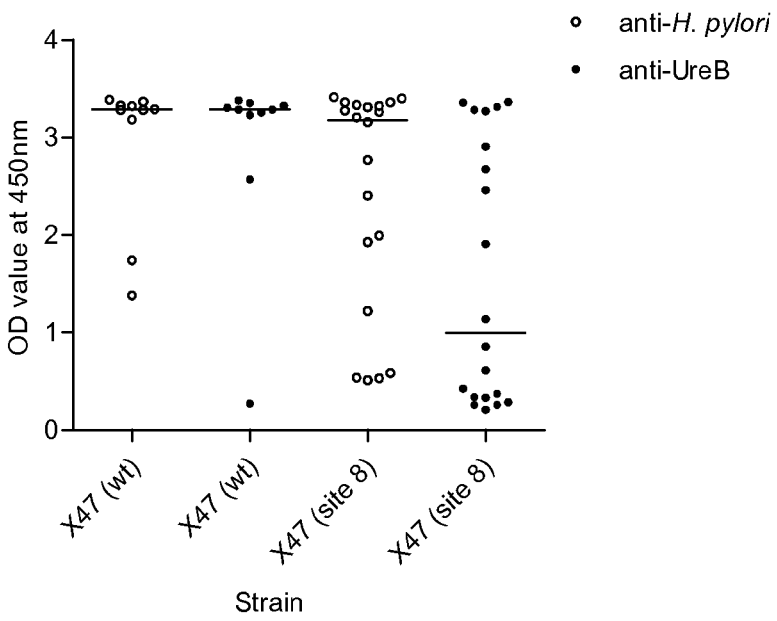


Figure 3 Cont.

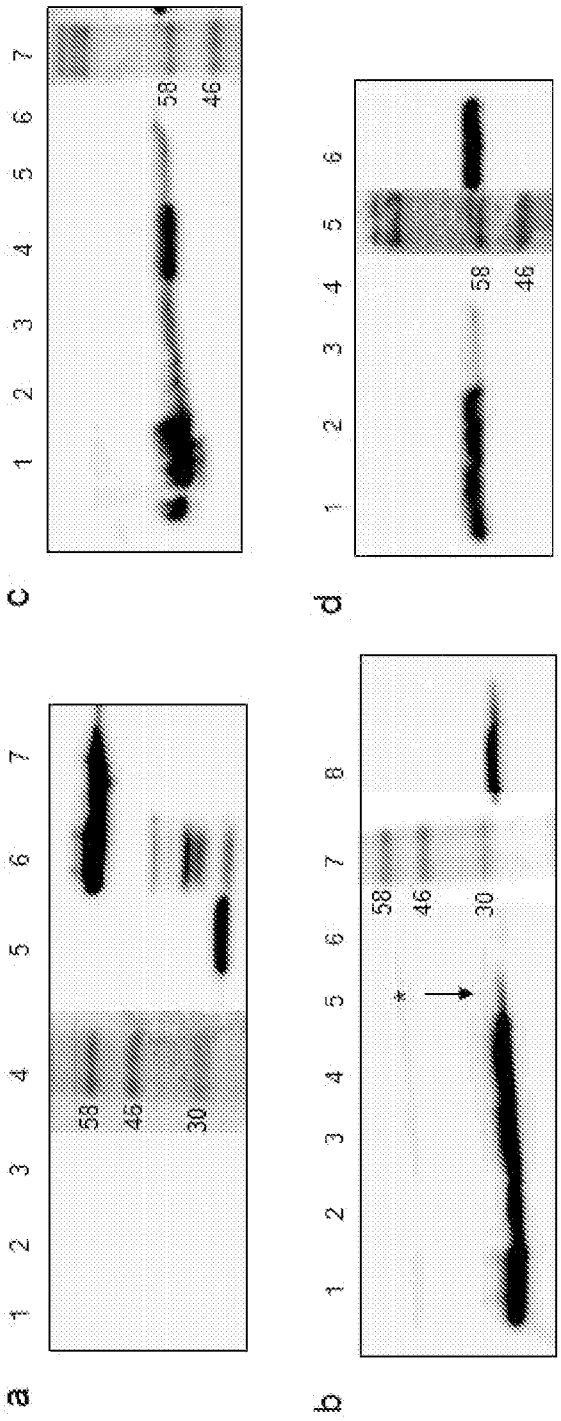


Figure 4

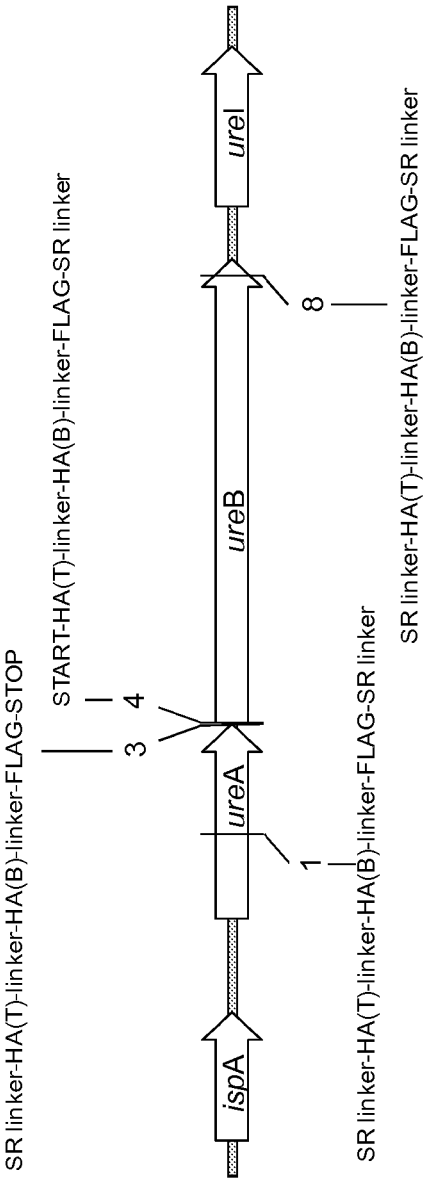

ispA
ureA
ureB
ureI
1
3
4
8
SR linker-HA(T)-linker-HA(B)-linker-FLAG-STOP
START-HA(T)-linker-HA(B)-linker-FLAG-SR linker
SR linker-HA(T)-linker-HA(B)-linker-FLAG-SR linker
SR linker-HA(T)-linker-HA(B)-linker-FLAG-SR linker

Figure 5

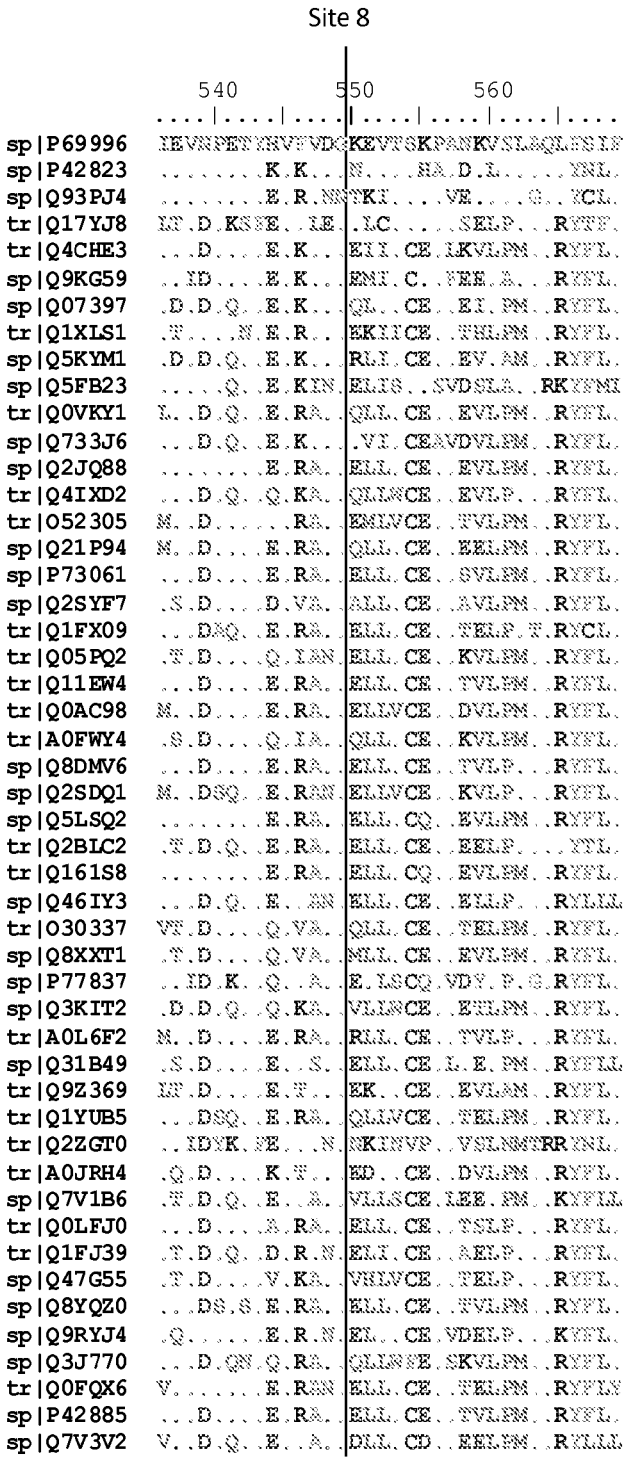

Site 8
540
550
560
sp|P69996
sp|P42823
sp|Q93PJ4
tr|Q17YJ8
tr|Q4CHE3
sp|Q9KG59
sp|Q07397
tr|Q1XLS1
sp|Q5KYM1
sp|Q5FB23
tr|Q0VKY1
sp|Q733J6
sp|Q2JQ88
tr|Q4IXD2
tr|O52305
sp|Q21P94
sp|P73061
sp|Q2SYF7
tr|Q1FX09
tr|Q05PQ2
tr|Q11EW4
tr|Q0AC98
tr|A0FWY4
sp|Q8DMV6
sp|Q2SDQ1
sp|Q5LSQ2
tr|Q2BLC2
tr|Q161S8
sp|Q46IY3
tr|O30337
sp|Q8XXT1
sp|P77837
sp|Q3KIT2
tr|A0L6F2
sp|Q31B49
tr|Q9Z369
tr|Q1YUB5
tr|Q2ZGT0
tr|A0JRH4
sp|Q7V1B6
tr|Q0LFJ0
tr|Q1FJ39
sp|Q47G55
sp|Q8YQZ0
sp|Q9RYJ4
sp|Q3J770
tr|Q0FQX6
sp|P42885
sp|Q7V3V2

Figure 6