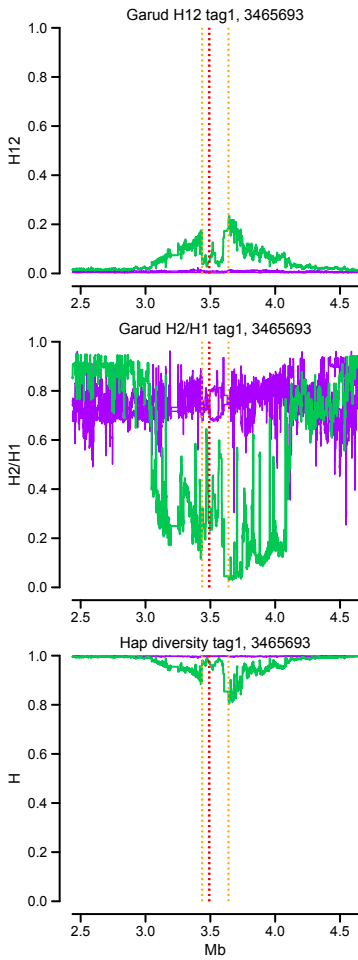


Supplementary Material SM11

A) Tagging variant 2R:3465693



— 280S-linked cluster 1
— wt-linked cluster 0
— wt-linked cluster 11
- - - Ace1
- - - dup

UPSTREAM

280S-linked cluster 1
 $h = 0.853699 \pm 0.003219$
 $H12 = 0.180403 \pm 0.003551$
 $H2/H1 = 0.048927 \pm 0.001552$

wt-linked cluster 0
 $h = 0.997857 \pm 0.000008$
 $H12 = 0.004081 \pm 0.000015$
 $H2/H1 = 0.759491 \pm 0.001641$

wt-linked cluster 11
 $h = 0.997005 \pm 0.000091$
 $H12 = 0.010303 \pm 0.000169$
 $H2/H1 = 0.745234 \pm 0.008099$

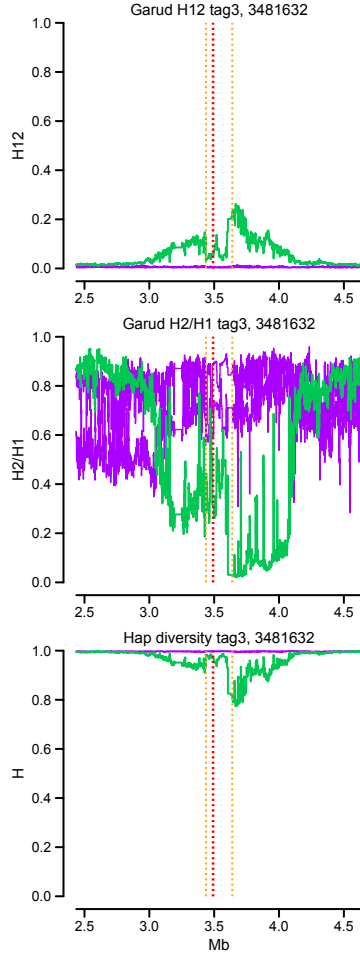
DOWNSTREAM

280S-linked cluster 1
 $h = 0.915789 \pm 0.002090$
 $H12 = 0.135794 \pm 0.002912$
 $H2/H1 = 0.160537 \pm 0.005901$

wt-linked cluster 0
 $h = 0.997725 \pm 0.000007$
 $H12 = 0.004034 \pm 0.000013$
 $H2/H1 = 0.770208 \pm 0.001570$

wt-linked cluster 11
 $h = 0.998548 \pm 0.000095$
 $H12 = 0.011212 \pm 0.000187$
 $H2/H1 = 0.758875 \pm 0.008788$

B) Tagging variant 2R:3481632



— 280S-linked cluster 4
— wt-linked cluster 0
— wt-linked cluster 2
- - - Ace1
- - - dup

UPSTREAM

280S-linked cluster 4
 $h = 0.818253 \pm 0.003414$
 $H12 = 0.209079 \pm 0.003609$
 $H2/H1 = 0.030246 \pm 0.000840$

wt-linked cluster 0
 $h = 0.998556 \pm 0.000008$
 $H12 = 0.003125 \pm 0.000014$
 $H2/H1 = 0.852989 \pm 0.001952$

wt-linked cluster 2
 $h = 0.995400 \pm 0.000026$
 $H12 = 0.008875 \pm 0.000051$
 $H2/H1 = 0.713415 \pm 0.002716$

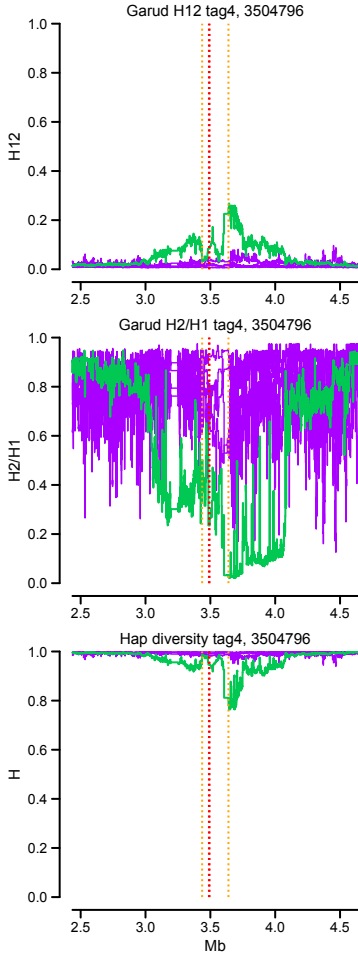
DOWNSTREAM

280S-linked cluster 4
 $h = 0.949384 \pm 0.001251$
 $H12 = 0.094103 \pm 0.002064$
 $H2/H1 = 0.303158 \pm 0.009604$

wt-linked cluster 0
 $h = 0.997777 \pm 0.000013$
 $H12 = 0.004349 \pm 0.000022$
 $H2/H1 = 0.667241 \pm 0.002710$

wt-linked cluster 2
 $h = 0.995212 \pm 0.000026$
 $H12 = 0.008356 \pm 0.000045$
 $H2/H1 = 0.631817 \pm 0.002834$

C) Tagging variant 2R:3504796



— 280S-linked cluster 6
— wt-linked cluster 1
— wt-linked cluster 25
— wt-linked cluster 3
— wt-linked cluster 8
- - - Ace1
- - - dup

UPSTREAM

280S-linked cluster 6
 $h = 0.811289 \pm 0.003744$
 $H12 = 0.226071 \pm 0.004056$
 $H2/H1 = 0.034603 \pm 0.001104$

wt-linked cluster 1
 $h = 0.998118 \pm 0.000034$
 $H12 = 0.006827 \pm 0.000034$
 $H2/H1 = 0.951386 \pm 0.000270$

wt-linked cluster 25
 $h = 0.986536 \pm 0.000385$
 $H12 = 0.031173 \pm 0.000730$
 $H2/H1 = 0.580588 \pm 0.012581$

wt-linked cluster 3
 $h = 0.996068 \pm 0.000138$
 $H12 = 0.014405 \pm 0.000280$
 $H2/H1 = 0.873700 \pm 0.001543$

wt-linked cluster 8
 $h = 0.989065 \pm 0.000126$
 $H12 = 0.019955 \pm 0.000217$
 $H2/H1 = 0.586079 \pm 0.005876$

DOWNSTREAM

280S-linked cluster 6
 $h = 0.970252 \pm 0.000886$
 $H12 = 0.061395 \pm 0.001583$
 $H2/H1 = 0.428783 \pm 0.013098$

wt-linked cluster 1
 $h = 0.997553 \pm 0.000050$
 $H12 = 0.008096 \pm 0.000094$
 $H2/H1 = 0.964587 \pm 0.005691$

wt-linked cluster 25
 $h = 0.991675 \pm 0.000202$
 $H12 = 0.020459 \pm 0.000400$
 $H2/H1 = 0.835920 \pm 0.002176$

wt-linked cluster 3
 $h = 0.996299 \pm 0.000131$
 $H12 = 0.014176 \pm 0.000277$
 $H2/H1 = 0.871137 \pm 0.001528$

wt-linked cluster 8
 $h = 0.989732 \pm 0.000122$
 $H12 = 0.021415 \pm 0.000250$
 $H2/H1 = 0.663398 \pm 0.005848$