

**Table S1. Phased heterozygous SNPs of OYMY around the breakpoint of target inversion**

| SNP                | Chrom       | Position           | OYMY |      |
|--------------------|-------------|--------------------|------|------|
|                    |             |                    | hap1 | hap2 |
| <i>rs1135363</i>   | <i>chrX</i> | <i>100,608,191</i> | G    | A    |
| <i>rs3747288</i>   | <i>chrX</i> | <i>100,611,285</i> | T    | C    |
| <i>rs67491067</i>  | <i>chrX</i> | <i>100,614,597</i> | C    | T    |
| <i>rs2746110</i>   | <i>chrX</i> | <i>100,615,023</i> | T    | G    |
| <i>rs5951412</i>   | <i>chrX</i> | <i>100,615,025</i> | T    | G    |
| <i>rs2855259</i>   | <i>chrX</i> | <i>100,615,478</i> | T    | C    |
| <i>rs7053244</i>   | <i>chrX</i> | <i>100,616,465</i> | T    | C    |
| <i>rs5991985</i>   | <i>chrX</i> | <i>100,616,712</i> | A    | G    |
| <i>rs3027641</i>   | <i>chrX</i> | <i>100,616,989</i> | C    | T    |
| <i>rs57578919</i>  | <i>chrX</i> | <i>100,618,521</i> | A    | G    |
| <i>rs112926724</i> | <i>chrX</i> | <i>100,618,699</i> | A    | C    |
| <i>rs113928932</i> | <i>chrX</i> | <i>100,618,702</i> | A    | C    |
| <i>rs112012348</i> | <i>chrX</i> | <i>100,618,871</i> | C    | T    |
| <i>rs3027639</i>   | <i>chrX</i> | <i>100,620,248</i> | G    | A    |
| <i>rs2238987</i>   | <i>chrX</i> | <i>100,623,072</i> | C    | T    |
| <i>rs2301175</i>   | <i>chrX</i> | <i>100,625,293</i> | C    | T    |
| <i>rs6523489</i>   | <i>chrX</i> | <i>100,627,061</i> | A    | T    |
| <i>rs12156856</i>  | <i>chrX</i> | <i>100,627,901</i> | G    | A    |
| <i>rs58911756</i>  | <i>chrX</i> | <i>100,628,779</i> | T    | C    |
| <i>rs112279403</i> | <i>chrX</i> | <i>100,628,856</i> | C    | G    |
| <i>rs3027623</i>   | <i>chrX</i> | <i>100,631,138</i> | A    | G    |
| <i>rs2238986</i>   | <i>chrX</i> | <i>100,631,663</i> | G    | A    |
| <i>rs2239462</i>   | <i>chrX</i> | <i>100,632,425</i> | T    | C    |
| <i>rs2239461</i>   | <i>chrX</i> | <i>100,632,637</i> | C    | T    |
| <i>rs3027615</i>   | <i>chrX</i> | <i>100,634,252</i> | T    | C    |
| <i>rs7050436</i>   | <i>chrX</i> | <i>100,634,401</i> | G    | C    |
| <i>rs3027607</i>   | <i>chrX</i> | <i>100,635,063</i> | T    | C    |
| <i>rs5951303</i>   | <i>chrX</i> | <i>100,635,640</i> | T    | C    |
| <i>rs112205508</i> | <i>chrX</i> | <i>100,636,755</i> | T    | A    |
| <i>rs3027613</i>   | <i>chrX</i> | <i>100,637,128</i> | C    | T    |
| <i>rs112741233</i> | <i>chrX</i> | <i>100,637,376</i> | G    | A    |
| <i>rs3027611</i>   | <i>chrX</i> | <i>100,637,580</i> | G    | T    |
| <i>rs2238984</i>   | <i>chrX</i> | <i>100,639,801</i> | A    | G    |
| <i>rs2071229</i>   | <i>chrX</i> | <i>100,641,574</i> | G    | A    |
| <i>rs5951307</i>   | <i>chrX</i> | <i>100,644,121</i> | G    | A    |
| <i>rs3027600</i>   | <i>chrX</i> | <i>100,644,567</i> | T    | C    |
| <i>rs5951308</i>   | <i>chrX</i> | <i>100,645,467</i> | T    | C    |
| <i>rs113541091</i> | <i>chrX</i> | <i>100,648,680</i> | C    | T    |
| <i>rs112132208</i> | <i>chrX</i> | <i>100,649,408</i> | A    | T    |
| <i>rs35019768</i>  | <i>chrX</i> | <i>100,652,643</i> | C    | T    |
| <i>rs2071228</i>   | <i>chrX</i> | <i>100,653,109</i> | G    | A    |
| <i>rs2071397</i>   | <i>chrX</i> | <i>100,653,950</i> | T    | C    |
| <i>rs1023431</i>   | <i>chrX</i> | <i>100,657,809</i> | G    | T    |
| <i>rs111386229</i> | <i>chrX</i> | <i>100,659,495</i> | C    | T    |
| <i>rs3027586</i>   | <i>chrX</i> | <i>100,662,219</i> | T    | C    |
| <i>rs6621057</i>   | <i>chrX</i> | <i>100,687,987</i> | T    | C    |
| <i>rs6621058</i>   | <i>chrX</i> | <i>100,687,989</i> | T    | C    |

|             |      |             |   |   |
|-------------|------|-------------|---|---|
| rs6621059   | chrX | 100,687,999 | T | C |
| rs369421089 | chrX | 100,688,005 | C | T |
| rs182622640 | chrX | 100,709,516 | C | T |
| rs201519615 | chrX | 100,729,476 | T | C |
| rs963618    | chrX | 100,743,037 | C | T |
| rs5951332   | chrX | 100,743,826 | A | G |
| rs5951333   | chrX | 100,745,825 | T | C |
| rs3174476   | chrX | 100,749,585 | C | T |
| rs6523506   | chrX | 100,753,410 | T | G |
| rs7060868   | chrX | 100,753,863 | T | C |
| rs7060883   | chrX | 100,753,922 | T | C |
| rs7060491   | chrX | 100,754,149 | G | T |
| rs2157110   | chrX | 100,754,924 | C | G |
| rs7887626   | chrX | 100,757,661 | A | G |
| rs6621082   | chrX | 100,757,899 | A | T |
| rs376276792 | chrX | 100,758,783 | T | G |
| rs6616250   | chrX | 100,760,103 | G | A |
| rs6621083   | chrX | 100,760,626 | C | T |
| rs5951267   | chrX | 100,767,094 | T | C |
| rs5951339   | chrX | 100,767,126 | C | T |
| rs55917049  | chrX | 100,767,185 | A | G |
| rs1114843   | chrX | 100,767,857 | G | A |
| rs2361299   | chrX | 100,767,860 | G | T |
| rs36017889  | chrX | 100,768,592 | G | A |
| rs67235608  | chrX | 100,769,910 | T | A |
| rs72615580  | chrX | 100,770,514 | C | A |
| rs5951340   | chrX | 100,771,055 | T | C |
| rs5951268   | chrX | 100,772,491 | A | G |
| rs5951341   | chrX | 100,773,518 | C | A |
| rs5951342   | chrX | 100,773,590 | A | G |
| rs5951343   | chrX | 100,774,559 | T | C |
| rs190032386 | chrX | 100,776,499 | T | G |
| rs5951269   | chrX | 100,778,274 | C | T |
| rs2057354   | chrX | 100,778,863 | G | T |
| rs2057355   | chrX | 100,779,320 | A | G |
| rs6523509   | chrX | 100,779,655 | C | A |
| rs5951344   | chrX | 100,779,664 | C | T |
| rs141163587 | chrX | 100,781,515 | C | T |
| rs148942171 | chrX | 100,782,270 | A | G |
| rs148078529 | chrX | 100,783,746 | A | G |
| rs188350543 | chrX | 100,784,211 | C | A |
| rs12833777  | chrX | 100,785,073 | A | T |
| rs5951349   | chrX | 100,785,918 | A | G |
| rs5991944   | chrX | 100,792,633 | C | T |
| rs7878970   | chrX | 100,793,168 | A | G |
| rs6523510   | chrX | 100,793,995 | G | C |
| rs1967744   | chrX | 100,794,731 | C | T |
| rs200187824 | chrX | 100,798,582 | A | T |
| rs139047275 | chrX | 100,798,650 | T | A |
| rs200504230 | chrX | 100,799,265 | T | G |

|                    |             |                    |   |   |
|--------------------|-------------|--------------------|---|---|
| <i>rs374228263</i> | <i>chrX</i> | <i>100,799,601</i> | A | G |
| <i>rs141807963</i> | <i>chrX</i> | <i>100,799,920</i> | C | G |
| <i>rs141933626</i> | <i>chrX</i> | <i>100,799,921</i> | A | G |

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