**Supplementary Table S1. Primers for Vector Construction and Genotyping**

| Target  | Accession | Reagent      | Use     | Forward/reverse | 5’ → 3’ sequence | Product size (bp) | See Fig. |
|---------|-----------|--------------|---------|-----------------|-------------------|-------------------|----------|
| ADRB2   | NM_000024 | LH primer    | VC      | F               | GGTTCGCAGGTATCGATAAGCTTGGATT | 1084             | Fig. 1A  |
|         |           |              |         |                 |                   |                   |          |
|         |           | RH primer    | F       |                 | ACGGAGACTATCTTCTCTAGGGTTAA | 1083             |          |
|         |           | R           |         |                 | TCGTCTCTGCCATGTTGTTG |                   |          |
| ADRB2puroΔtk | CA | F         |         |                 | CATGTCGATCTTTTAAACCCTAGAAA | 3267             |          |
|         |           | R           |         |                 | GACAGATGCCAGCAGATTTACCT |                   |          |
|         | Primer b1 | Genotyping  | F       |                 | GCTCGAGGTGAGGCAAGATTCG | 1331             |          |
|         | Primer b2 | Expression  | R       |                 | ATGCCAAAGTGACTCTGCCAC | 555              | Fig. 5   |
|         | Primer b4 | Genotyping  | R       |                 | ATGCCAACATGAGATCCACC |                   |          |
|         | Primer OT1| OT1         | F       |                 | CCTGAGCTGCTCCCTTTCCC | 378              | Fig. 3C  |
|         | Primer OT2| OT2         | F       |                 | CCAGAGCATTGCAAGAGTGCAC | 387              |          |
|         | Primer OT3| OT3         | F       |                 | ACTGCTACATGAGAAGCTCTC | 357              |          |
|         | Primer OT4| OT4         | R       |                 | TGCACATCAATGACGAGGCT | 344              |          |
|         | Primer OT5| OT5         | F       |                 | CCCAGCTGAGCAGGATGTA | 332              |          |
|         | aDRB2-PT  | Random      | F       |                 | ATGCGAACATGACTCCACC | 554              | Fig. 3D  |
|         |           | integration | R       |                 | GCTGAGTGTCAGGAGCATG | 371              |          |
|         | TK        | F           |         |                 | ATAGACGCTCCAGGGAT | 269              |          |
|         | AMP       | F           |         |                 | CCTTCTAGGATGGTCGCC | 576              |          |
|         |           | R           |         |                 | CTCTTGTAGCTGTCGCC | 1156             | Fig. 5   |
| GRK5    | NM_005308 | LH primer    | VC      | F               | GGTCGCAAGGTATCGATAAGCTTGGATT | 1156             |          |
|         |           | RH primer    | F       |                 | ACGGAGACTATCTTCTCTAGGGTTAACG | 1146             |          |
|         | Primer g1 | Genotyping  | F       |                 | CAGGAGCAAGGTGAGGAGCAG | 1446             |          |
|         | Primer g2 | Expression  | R       |                 | TCCGAGAGCATAGACAGAGA | 403              |          |
|         | Primer g3 | Expression  | R       |                 | TGCGTTTCTCAACCATTCCA |                   |          |
|         | Primer g4 | Genotyping  | R       |                 | TTGTGCAATTAGGGCAATA | n.a.             | Fig. 4   |
| WGE ID: | 1075072174| gRNA 2a     | - Strand | + Strand         | GTAGGAGCAAATGCACTCAG |                   |          |
| ACTC1   | NM_005159 | LH primer    | VC      | F               | GGTCGCAAGGTATCGATAAGCTTGGAT | 1050             | Fig. 5   |
|         |           | RH primer    | F       |                 | ACGGAGACTATCTTCTCTAGGGTTAACG | 1051             |          |
|         | Primer a1 | Genotyping  | F       |                 | CACCTGACCCCTCTGTGTTG | 2267             |          |
|         | Primer a2 | Expression  | F       |                 | GCCGAATCTGAGGAGAGGAGA | 461              |          |
|         | Primer a3 | Expression  | F       |                 | GGTGATGAAGCCAGAGAAGA |                   |          |
|         | Primer a4 | Genotyping  | R       |                 | GAGTTAACAGTAAGGTCCTG | n.a.             | Fig. 4   |

(continued)
| Target | Accession      | Reagent | Use     | Forward/reverse          | 5' → 3' sequence                  | Product size (bp) | See Fig. |
|--------|----------------|---------|---------|--------------------------|-----------------------------------|-------------------|----------|
| RYR2   | NG_008799.2    | LH primer | VC | F | ACGGTATCGATAAGCTTGATTACGT AAAATTTAACCTTTAA | 360 | Fig. 5   |
|        |                |          |        | R | GACTATCTTTCTAGGGTTAAAAATATT GAGAAAACCGTGAA |               |          |
|        |                | RH primer | F | TGATTATCTTTCTAGGGTTAAAATATAA GTAAGGTTGGTGCA | 1041 |          |
|        |                |          |        | R | CCGGGCTGCAGGAATTCGAT CAGTAAGGAAACAGGAAGA |               |          |
|        | Primer r1      | Genotyping | F | CCCCGCTATGTAGAGGTTCA | 445 |          |
|        | Primer r2      |          |        | R | GAACGTGGTTCTCCTTCCA |               |          |
|        | Primer r3      | Expression | F | TGATGAAAGCATCAAACGCA | 560 |          |
|        | Primer r4      |          |        | R | TGATGAGGGGCAGGAGTGT |               |          |
| gRNA   | Targeting      | + Strand  | ATTTTAAATATAGTAAAGGTT | n.a. | Fig. 4   |
| ACTB   | NM_001101.3    | Primer GAP1 | Expression | F | CAAGAGATGGCCACGGCT | 312 | Fig. 5   |
|        | Primer GAP2    |          |        | R | CTTAGTCATTGTGCTGGG |               |          |

CA, cassette amplification; LH, left homology; RH, right homology; VC, vector construction.