

## Supplemental Table 1

sgRNA for Triple CRISPR

| Target_gene         | Target_sequence           |
|---------------------|---------------------------|
| <i>tyrosinase#1</i> | CGGCCTTGTGCCAACTCAGAGGG   |
| <i>tyrosinase#2</i> | GAACCGTCTCCCTCCCACACCGG   |
| <i>tyrosinase#3</i> | CAGGTCTCAGACGAGCCCAATGG   |
| <i>tbx16#1</i>      | GATAGAATCACTTTACAGTGTGG   |
| <i>tbx16#2</i>      | TGGGTGGAGGTAGGTCCGGCAGG   |
| <i>tbx16#3</i>      | ACCGCGATGAAGGAAGTCTCTGG   |
| <i>tcf7l1#1</i>     | CGAAAACGTCTCCGCGGAGAGGG   |
| <i>tcf7l1#2</i>     | ACGGGAGTCTTTGATTCTGCGG    |
| <i>tcf7l1#3</i>     | GACTCCCGTTCTCCAACACCAGG   |
| <i>DsRed2#1</i>     | GGCCACGAGTTCGAGATCGAGGG   |
| <i>DsRed2#2</i>     | CTCGGTGATGACGTTCTCGGAGG   |
| <i>DsRed2#3</i>     | GGAGCCGTA CTGGA ACTGGGGGG |

sgRNA for Knock-in

| Target_gene    | Target_sequence         |
|----------------|-------------------------|
| <i>noto</i>    | CGCGGTTGTTCTACTAGGCAGG  |
| <i>tbx16</i>   | AGGGTTCCCCTTAAAAGTCATGG |
| <i>hba</i>     | TAAGTCTTCAGGATGTAGCTGGG |
| <i>entpd5a</i> | CTTAGTTCAGCTCACAGGAGGG  |
| <i>tbait</i>   | GGCTGCTGTCAGGGAGCTCATGG |

Genotyping

| gene_name         | Primer_frd           | Primer_Rv            |
|-------------------|----------------------|----------------------|
| <i>tyrosinase</i> | ATGAGGAGCCTGCTTGTGTC | CCTCCTAGGAAGGCGTCTCT |

Probe

| gene_name    | Primer_frd                 | Primer_Rv                  |
|--------------|----------------------------|----------------------------|
| <i>tbx16</i> | ATCATTCTGCACTCCATGCATCGCTA | GTAGTCAGCAGTCAGAGGGTGAG    |
| <i>noto</i>  | TTAACAGGGCTCTGGAGAGTCGTC   | ATGCAGGTACCGAACACACCGATGGG |