

Supplementary Figure 1: Primers used to verify properly targeted genes in the sugar *Gr64a* and *Gr5a* loci. For location, see Figure 1.

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P1	GATCACCTTGTACCTGTGTGCG
P2	GCTTGATGGCTTCCTGGAAAGATC
P3	CCAGAGGATTATGTTCTGCTC
P4	ACCATATATCCAGAGCTAACAC
P6	TTTTTCTAGACTATGAGTAATAGCTCTGATCGCAG
P7	AAGAATCGCTGCTGTTTCATAG
P8	GGTGAAGAACAACCTGAACCA
P9	TTTTGGTACCCACCATGCAGCAGTCGGGTCAAAAAG
P10	GCTAGCCTTATGGCGGACACTGCAATCCTGG
P11	CGCATTTAACGTTGTTTCCGGTGC
P12	GCTAGCGTTTTTACGCCTGCTGTCTGCTG
G4	CTTGATTCCACTTCTGTCAGATGT
LA	GACCTTCAATATGCTGTTGCGC
W	TGACGCTACGTAACGCTACAAACGG

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Supplementary Figure 2: Cellular responses of 5v associated sweet GRNs in control (*Gr64a<sup>GAL4/+</sup>*) and *Gr64a* mutant (*Gr64a<sup>GAL4/GAL4</sup>*) mutant flies.

