

Supplementary Materials

Residual Glucose Taste in T1R3 Knockout but not TRPM5 Knockout Mice

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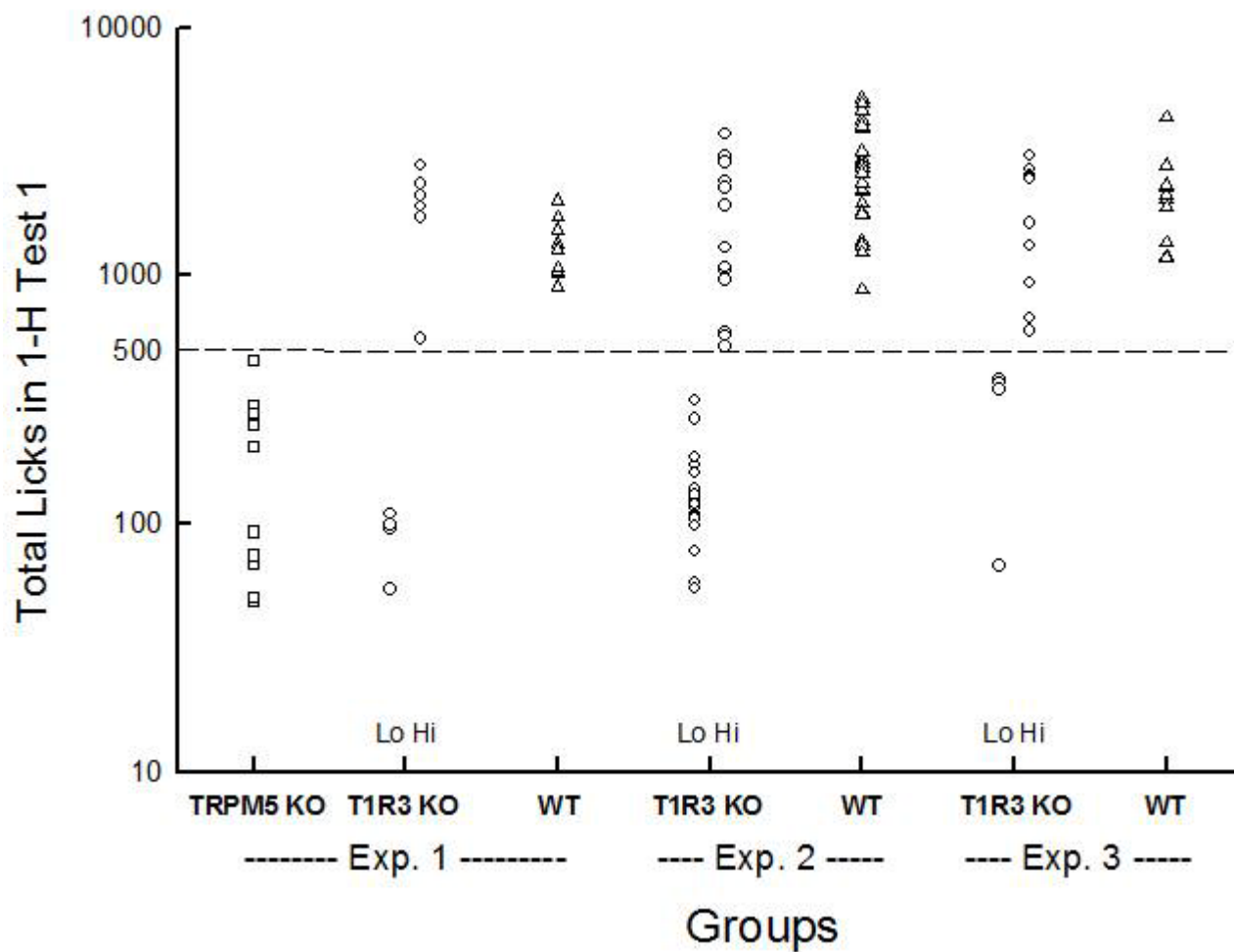


Figure S1. Experiments 1 - 3. Total licks emitted by individual TRPM5 KO, T1R3 KO, and WT mice in 1-h Test 1 in Experiment 1, and by T1R3 KO and WT mice in Experiments 2 and 3. The T1R3 KO mice were divided into KO Lo (left column) and KO Hi (right column) subgroups based on whether their 1-h total licks were less than or more than 500 licks/1 h, respectively.

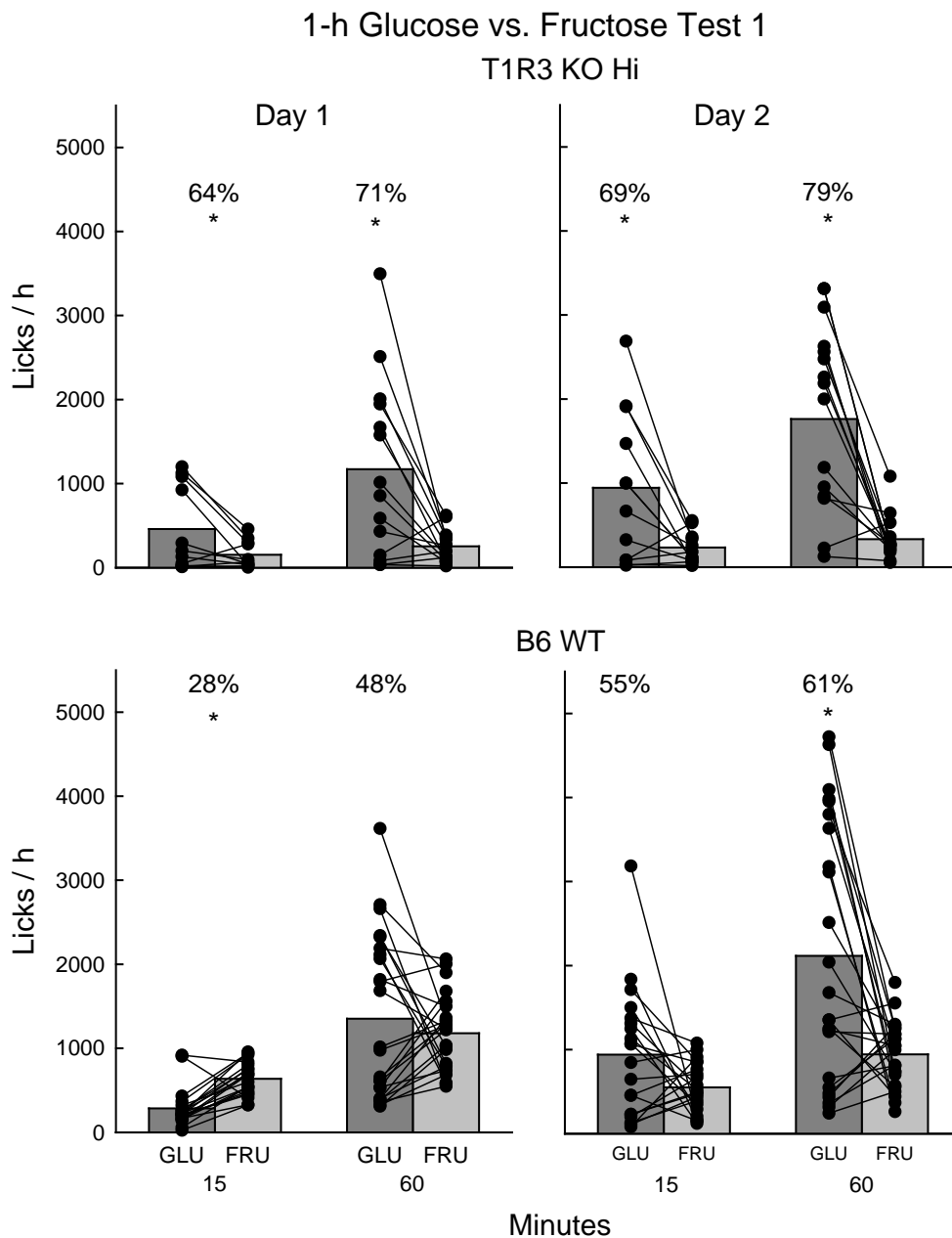


Figure S2. Experiment 2. Group mean and individual subject 8% glucose (GLU) vs. 8% fructose (FRU) licks during 1-h, two-bottle sessions 1 and 2 of Test 1 for T1R3 KO Hi (n=14) and B6 WT (n=24) mice. Note that 15-min lick data were lost for three T1R3 KO Hi mice and four B6 WT mice due to computer disk storage problems. Numbers atop bars represent the mean percent preference for that sugar. Significant ($P < 0.05$) within group differences between glucose vs. fructose licks indicated by *.

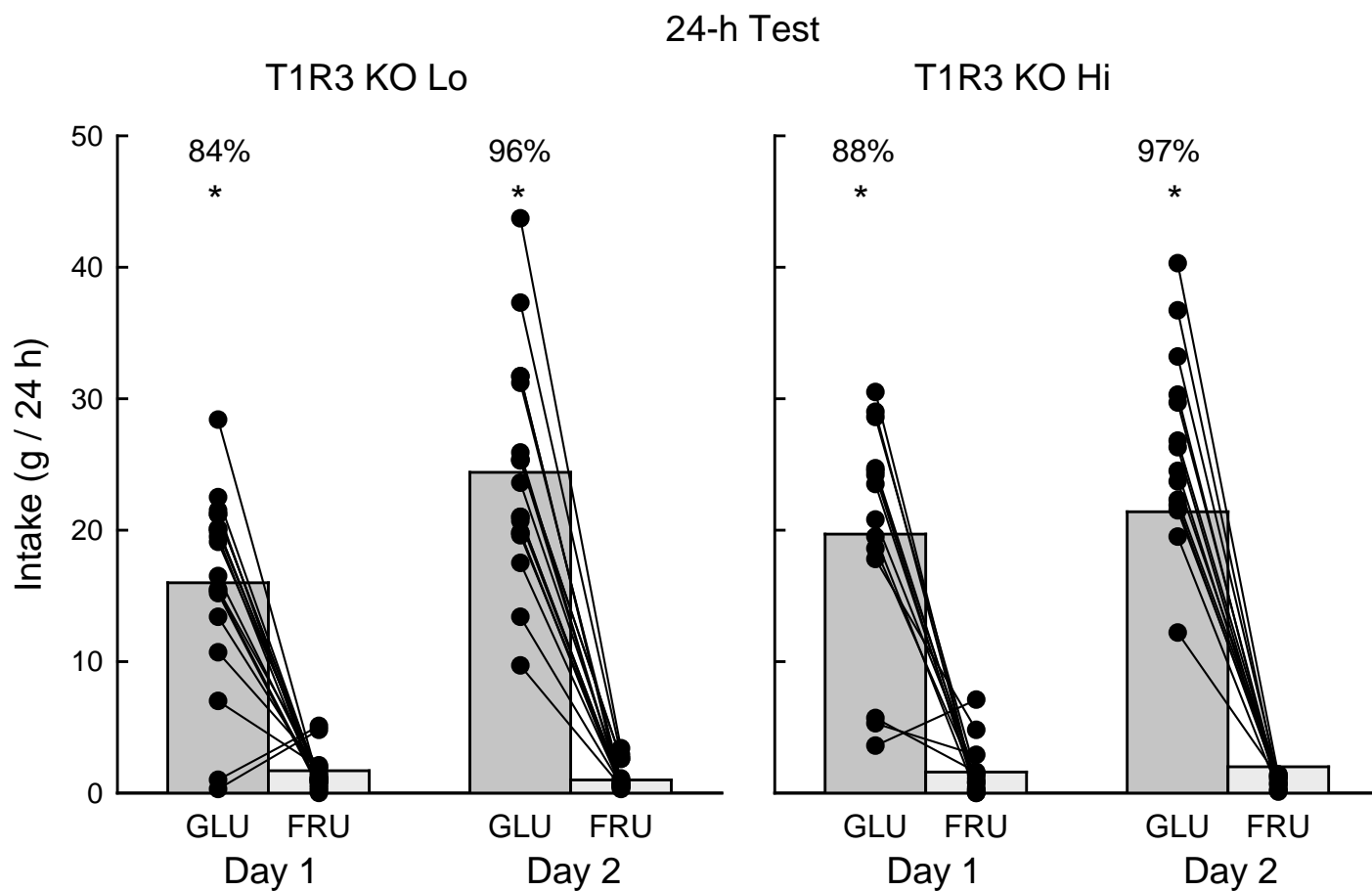


Figure S3. Experiment 2. Group mean and individual subject 8% glucose (GLU) vs. 8% fructose (FRU) intakes during 24-h, two-bottle sessions 1 and 2 for T1R3 KO Lo (n=18) and T1R3 KO Hi (n=14) mice. Numbers atop bars represent the mean percent preference for that sugar. Significant ($P < 0.05$) within group differences between glucose vs. fructose intakes indicated by *.

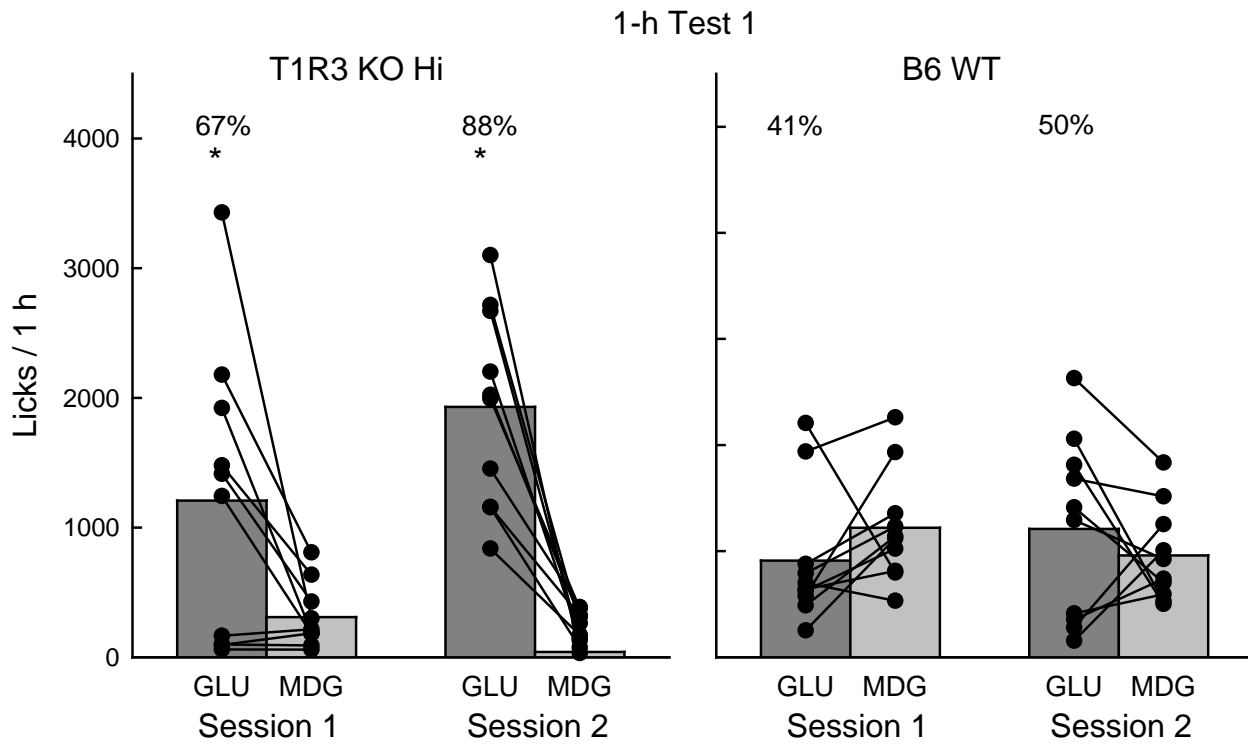


Figure S4. Experiment 3. Group mean and individual subject licks for 0.44 M glucose (8% GLU) vs. α -methyl-D-glucopyranoside (8.6% MDG) licks during 1-h, two-bottle sessions 1 and 2 of Test 1 for T1R3 KO Hi (n=10) and B6 WT (n=10) mice. Numbers atop bars represent the mean percent preference for that sugar. Significant ($P < 0.05$) within group differences between glucose vs. fructose licks indicated by *.

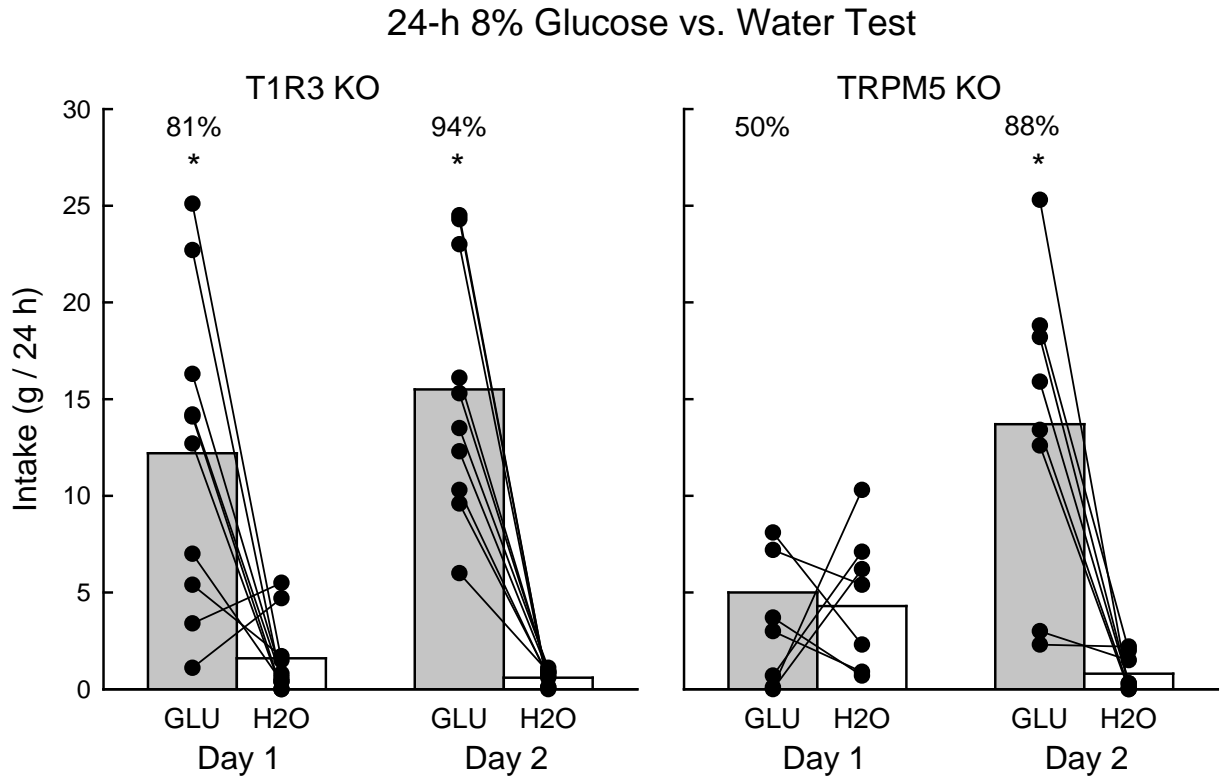


Figure S5. Group mean and individual subject 8% glucose (GLU) vs. water (H2O) intakes during 24-h, two-bottle days 1 and 2 for T1R3 KO (n=10) and TRPM5 KO (n=8) mice. The mice were given 2-day, two-bottle tests with glucose vs. water at ascending sugar concentrations of 0.5 to 32% but only the 8% data are shown. Numbers atop bars represent the mean percent preference for that sugar. Significant ($P < 0.05$) within group differences between glucose vs. fructose intakes indicated by *. Data from [54].

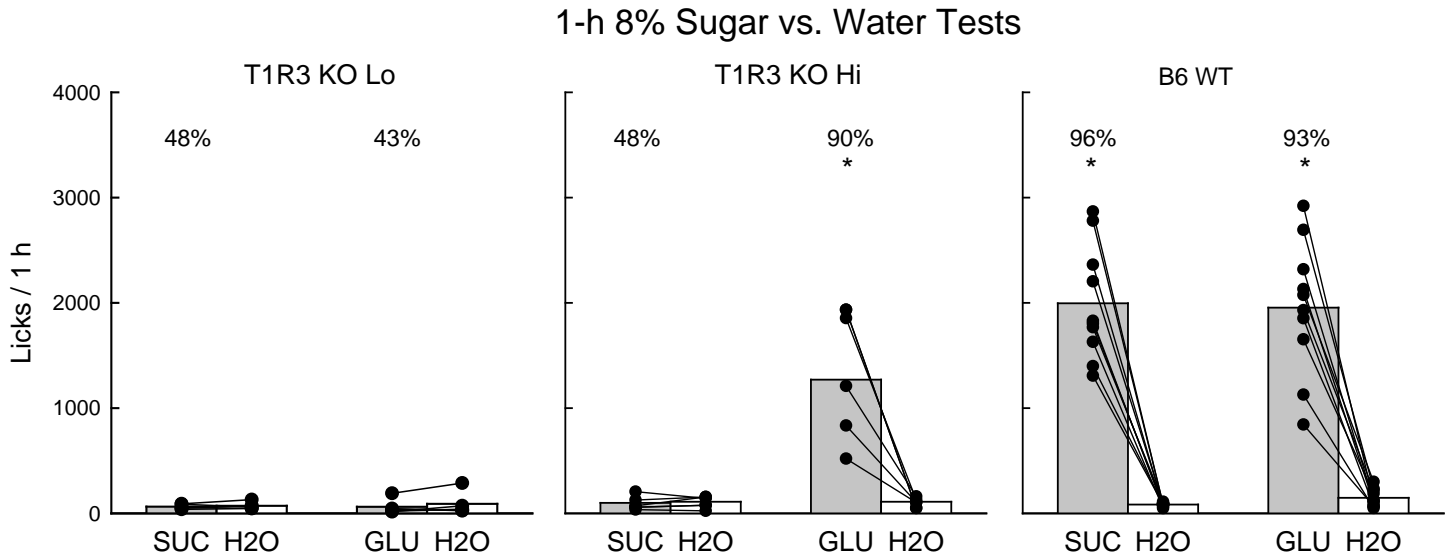


Figure S6. Mean (+SE) 8% sucrose vs. water and 8% glucose vs. water licks during 1-h two-bottle tests conducted with T1R3 KO (n=10) and B6 WT (n=10) female mice. Based on total licks emitted in the glucose test, the T1R3 KO mice were divided into KO Hi (n=5, 622-1984 licks/h) and KO Lo (n=5, 62-477 licks/h) subgroups. Prior to each 1-h test, the mice were given 1-min sugar vs. water tests while water restricted and food restricted (data not shown). Separate ANOVAs revealed that the KO Lo mice had similarly low licks for sucrose, glucose and water. The KO Hi mice licked more glucose than water and were indifferent to sucrose and water (Sugar x Water interaction, $F(1,4) = 15.9$, $P < 0.05$) and the B6 WT mice showed similar high licks for sucrose and glucose relative to water (Sugar effect, $F(1,9) = 203.6$, $P < 0.001$). Numbers atop bars represent the mean percent preference for that sugar. Significant ($P < 0.05$) within group differences between sucrose vs. water or glucose vs. water licks indicated by *. (Sclafani, unpublished data)

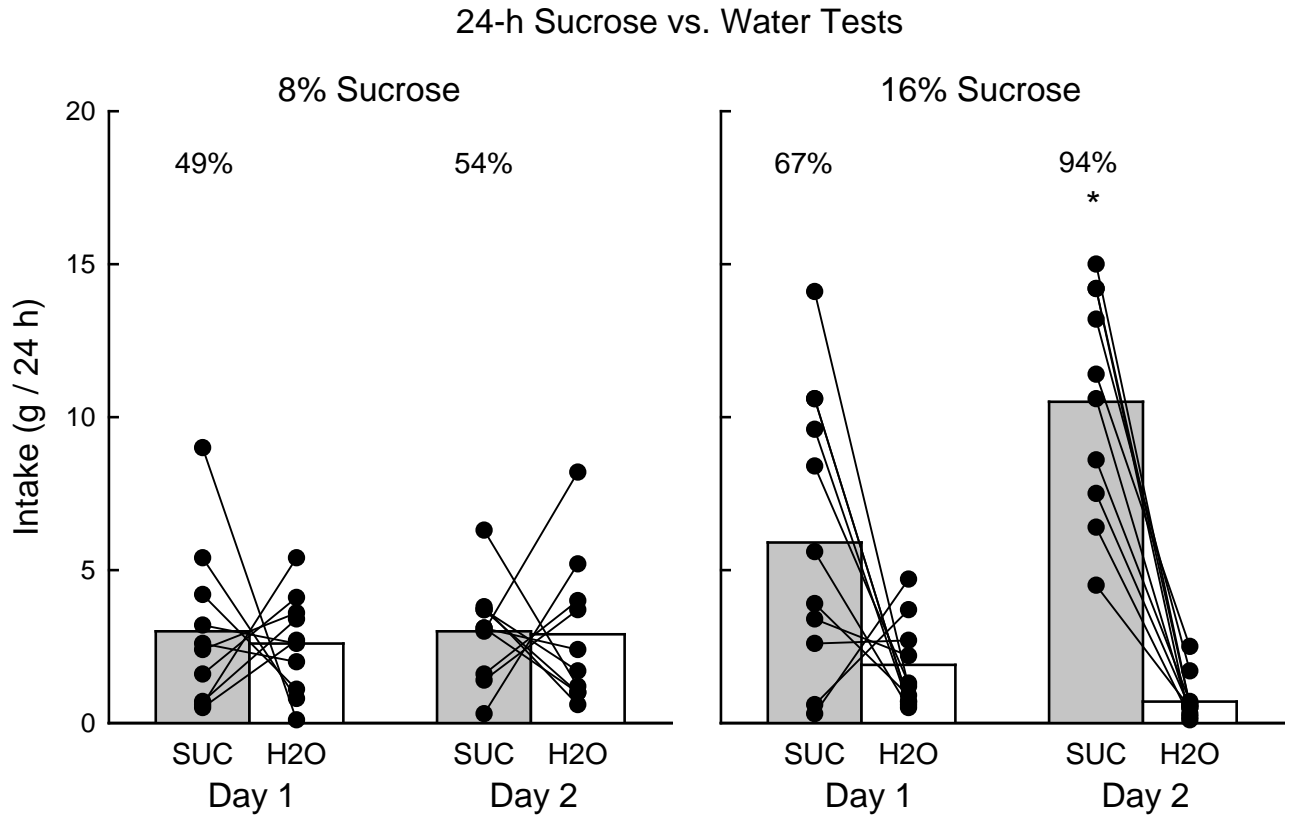


Figure S7. Group mean and individual subject intakes of 8% and 16% sucrose (SUC) vs. water (H2O) intakes during 24-h, two-bottle days 1 and 2 for T1R3 KO (n=10) mice. The mice were given 2-day, two-bottle tests with sucrose vs. water at ascending sugar concentrations of 0.5 to 32% but only the 8% and 16% data are presented. Numbers atop bars represent the mean percent preference for that sugar. Significant ($P < 0.05$) within group differences between sucrose vs. water intakes indicated by *. Data from [53].

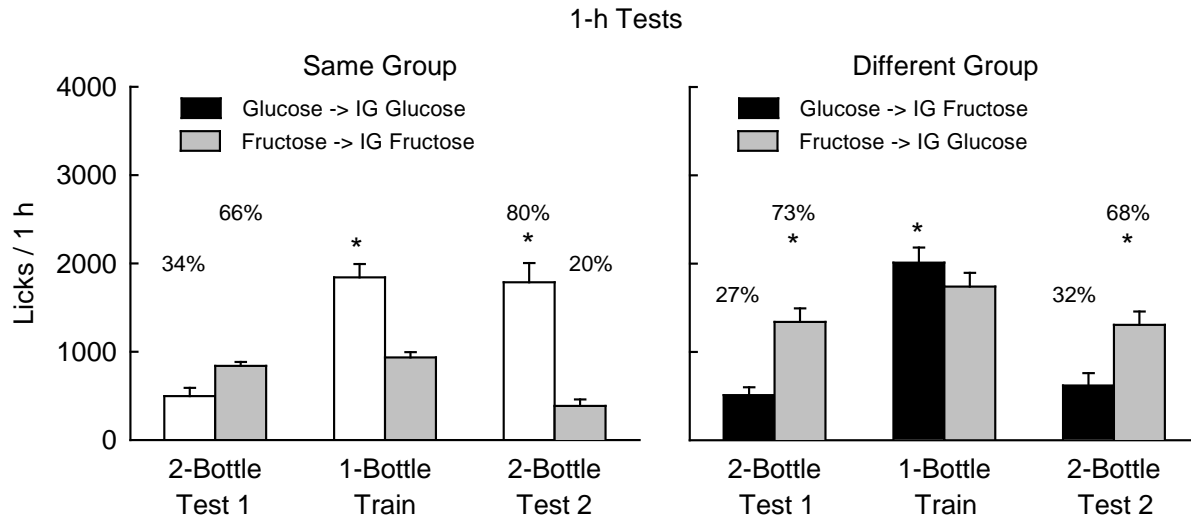


Figure S8. Mean (\pm SE) 8% glucose vs. 8% fructose licks during 1-h two-bottle Tests 1 and 2 (2 sessions each) and one-bottle training sessions (2 sessions with each sugar) of food-restricted male B6 mice. The mice in the Different group ($n=11$) had intake of 8% glucose paired with matched volume intragastric (IG) infusions of 8% fructose, and intake of 8% fructose paired with matched volume IG infusions of 8% glucose. The mice in the Same group ($n=11$) had intake of 8% glucose paired with matched IG infusions of 8% glucose, and intake of 8% fructose paired with matched IG infusions of 8% fructose. Numbers atop bars represent the mean percent preference for that sugar. Significant ($P < 0.05$) within group differences between glucose vs. fructose intakes indicated by *. Unpublished data obtained with mice that were previously trained and tested with CS+ and CS- flavored saccharin solutions paired with IG infusions of Intralipid and water, respectively [2].