

Table ST1

	<i>Gucy2d</i> Genotype	+/+		+/-		-/-	
	Sex	M	F	M	F	M	F
Mechanical (von Frey)		9	10	12	9	7	4
Heat (Hargreaves assay)		8	9	11	8	6	3
Cold (Cold Plantar assay)		4	6	8	7	7	7
Chloroquine-induced itch		8	10	11	7	6	3
Dry skin model of itch (AEW)		4	6	5	5	5	4

Table ST1: Genotype and sex of animals used in behavior assays. AEW: acetone-ether-water.

Figure S1

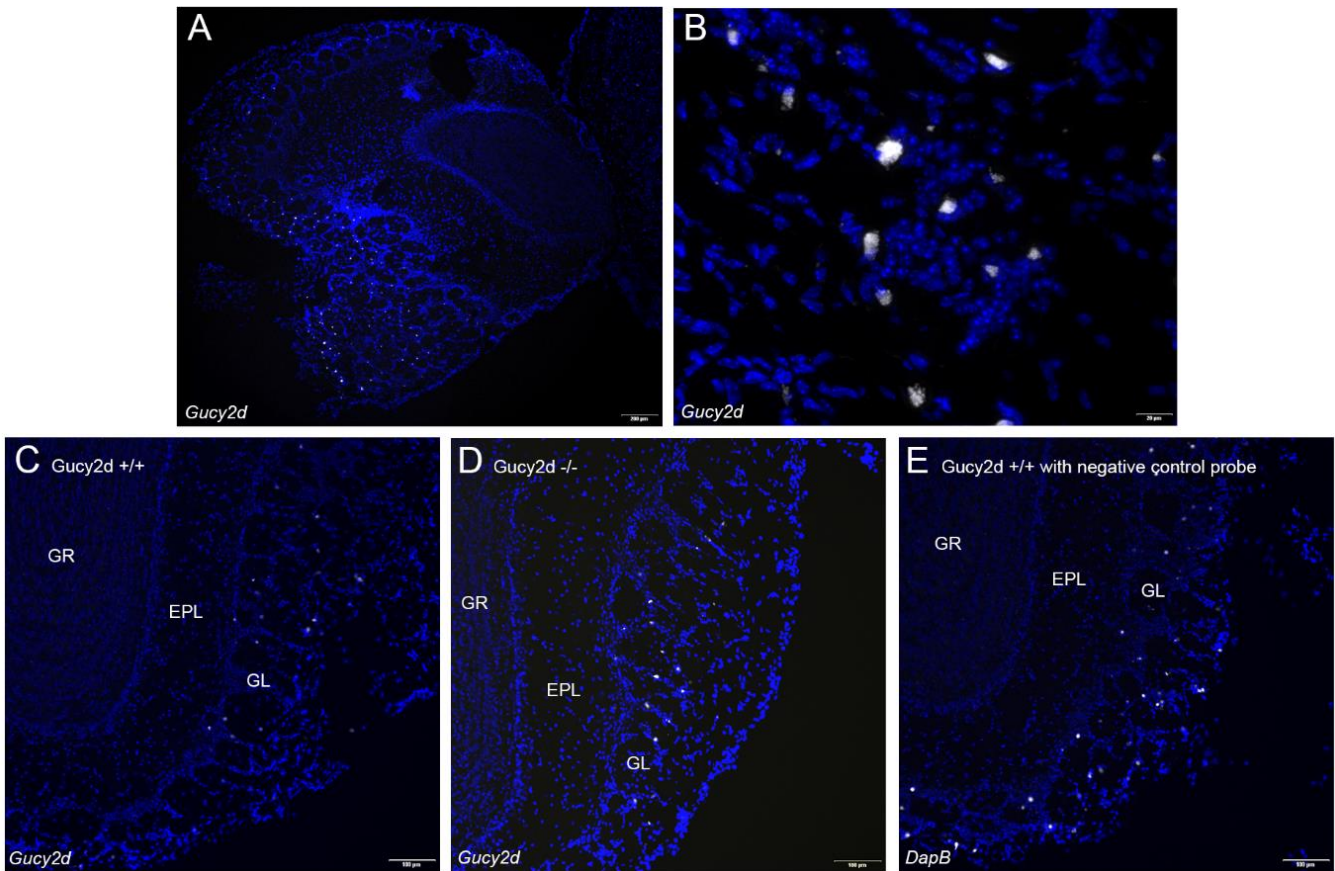


Fig S1: Nonspecific *in situ* hybridization probe signal for *Gucy2d* is present in the olfactory glomerular layer of *Gucy2d* knockout mice and when using the negative control probe *DapB*. (A) *Gucy2d* mRNA (white) appeared to localize to the glomerular layer of the rostral olfactory bulb. Parasagittal view; scale bar = 200 μm (B) High-power magnification revealed that this signal does not colocalize with DAPI-labeled nuclei (blue). Scale bar = 20 μm. (C-D) Coronal sections of the olfactory bulb demonstrate that this signal is present in the glomerular layer of *Gucy2d*+/+ and littermate negative control *Gucy2d*-/- knockout mice. (E) This signal also appears when sections are probed with negative control RNAscope probe for *B. subtilis* dihydrodipicolinate reductase (*DapB*). Scale bar in C-E = 100 μm. GR, granular layer; EPL, external plexiform layer; GL, glomerular layer.