

---

### Supplemental Figure captions

**Supplemental Figure 1.** NTS targeting technique. **A**, Digital photograph of a magnified view of the dorsal surface of the brain stem in an adult male C57BL/6 mouse.

Arrowhead points to the position of an approximately vertical electrode tract where gustatory-responsive neurons were found (see panel B). Note position of tract relative to vasculature, outlined in red. 4V, floor of fourth ventricle. **B**, Digital oscilloscope records showing responses to different taste stimuli recorded from a single unit encountered in the electrode tract referenced in panel A. Upward arrow denotes stimulus onset. All responses were recorded from the same unit, which is sensitive to multiple taste stimuli but not water.

**Supplemental Figure 2.** Verification of genotype and electrode positioning. **A**, Polymerase chain reaction amplification of T1r3 and neomycin (neo) sequences from tail DNA taken from 4 wild-type (WT) and 3 T1r3 knockout (KO) mice. **B**, A coronal section through the medulla showing placement of the recording electrode in a C57BL/6 mouse. The mouse was anesthetized with urethane and pentobarbital and a taste-responsive neuron sought out and isolated (see methods). Current (2  $\mu$ A / 30 s) was passed through the recording electrode to produce a lesion. The mouse was perfused with 0.9% NaCl followed by 10% formalin. The brain was removed, stored in 10% formalin and transferred to 30% sucrose (in PB) a day prior to sectioning. Tissue was cut at 40  $\mu$ m on a microtome and stained with cresyl violet. The lesion site (arrow) is clearly visible in the center of the figure and comparison to surrounding structures indicates the

---

electrode was positioned in NTS. Lesions were made in three other mice: two of the brains were lost during tissue processing due to a suspected contamination of histology chemicals; in the remaining brain a lesion was found in rostral NTS like that depicted here. Inset adapted from Paxinos and Franklin (2001). *MVe*, medial vestibular nucleus; *sp5*, spinal trigeminal tract; *Sp5n*, spinal trigeminal nucleus; *sol*, solitary tract.

**Supplemental Figure 3.** Digital oscilloscope records showing responses to 0.5 M MSG mixed with and without amiloride recorded from 3 different single units in T1r3 KO mice. Arrow denotes stimulus onset.

### References for supplement

Paxinos G and Franklin K. *The mouse brain in stereotaxic coordinates*. San Diego: Academic Press, 2001.