
CORRIGENDUM

The following abstract presented at the 20th Annual Meeting of the Association for Chemoreception Sciences (Sarasota, FL, 1998) was omitted from Issue Number 5, Volume 23 (1998) of *Chemical Senses*. The editors regret the omission.

Prop (6-*n*-propylthiouracil) genetics and trigeminal innervation of fungiform papillae

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Two cranial nerves innervate the fungiform papillae on the anterior tongue. Taste is carried by the chorda tympani branch of the facial nerve (VII) and pain, touch and thermal sensations are carried by the trigeminal nerve (V). Trigeminal neurons enter the fungiform papillae, surround the taste buds and terminate at the apex of the papillae (Whitehead *et al.*, 1985).

Individuals can be classified into three groups based on their ability to taste saturated PROP. Those to whom it is nearly tasteless (nontasters) have two recessive alleles and comprise ~25% of the American population, those to whom it is intensely bitter probably have two dominant alleles and comprise 25%, and those to whom

it is moderately bitter probably are heterozygotes and make up the remaining 50%. PROP tasting ability has been shown to correlate with the number of fungiform papillae on the anterior tongue.

We used the genetic variation in perception of PROP to test which sensations are mediated by the trigeminal neurons that enter fungiform papillae. Since supertasters have the most fungiform papillae, they have the most trigeminal neurons. If only certain types of trigeminal neurons enter fungiform papillae, then supertasters should perceive the sensations mediated by those types as more intense.

Oral irritation was assessed by swabbing ethanol (30–70%) and capsaicin (1–190 ppm) onto the anterior tongue. Oral touch was assessed by asking subjects to sip and spit viscous solutions of guar gum (0.1–1 g/100 ml) and canola oil (0–100%). Warmed or cooled metal probes were placed on the left anterior tongue, and subjects rated the intensity of the warmth or coolness respectively. Subjects also rated NaCl and PROP; supertasters have the highest PROP/NaCl ratios. Intensity ratings were obtained using the Labeled Magnitude Scale (Green *et al.*, 1993).

Perception of irritation and touch correlated significantly with PROP ratio (i.e. supertasters perceived the most intense sensations); however, neither thermal sensation showed a significant correlation.

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