

Table S5. The results of PAML branch-site model analysis.^a

(a) Analysis excluding pseudogenes.

TAAR subfamily ^b	Foreground branch	$2\Delta\ln L^c$	Proportion of site class	ω	Positively selected sites ^d
TAAR2 (8)	human TAAR2	5.031986 (0.025)	0: 0.90688, 1: 0.05283, 2a: 0.03807, 2b: 0.00222	$\omega_0=0.09728$, $\omega_1=1$, $\omega_2=53.19005$	K2 (0.944), Y99 ^{3.28} (0.944), L130 ^{3.59} (0.833), I257 (0.948), C327 (0.997) , I332 (0.947)
TAAR6 (7)	chimpanzee TAAR6	38.049413 (<0.0001)	0: 0.84791, 1: 0.13563, 2a: 0.0142, 2b: 0.00227	$\omega_0=0.12816$, $\omega_1=1$, $\omega_2=848.75853$	P7 (0.73), E15 (0.847), T16 (0.642), L17 (0.845), V96 ^{3.25} (0.997) , L97 ^{3.26} (0.992) , C114 ^{3.43} (0.99) , A115 ^{3.44} (0.964) , C195 ^{5.43} (0.858)

(b) Analysis including pseudogenes.

TAAR subfamily ^b	Foreground branch	$2\Delta\ln L^c$	Proportion of site class	ω	Positively selected sites ^d
TAAR2 (12)	human TAAR2	3.881624 (0.04882)	0: 0.62047, 1: 0.04397, 2a: 0.31335, 2b: 0.02221	$\omega_0=0.11208$, $\omega_1=1$, $\omega_2=3.04205$	K2 (0.848), Y99 ^{3.28} (0.846), L130 ^{3.59} (0.782)
TAAR6 (12)	chimpanzee TAAR6	49.323874 (<0.0001)	0: 0.71059, 1: 0.27347, 2a: 0.01151, 2b: 0.00443	$\omega_0=0.20664$, $\omega_1=1$, $\omega_2=999.0000$	P7 (0.739), V96 ^{3.25} (0.997) , L97 ^{3.26} (0.993) , C114 ^{3.43} (0.982) , A115 ^{3.44} (0.954) , C195 ^{5.43} (0.726)

^aOnly the results where the given foreground branch having positive selection is supported significantly are listed. These branches are indicated with red color and arrows in figure 2.

^bThe number of the TAAR subfamily genes tested is given in parentheses.

^cLikelihood-ratio test statistics. *P*-values (shown in parentheses) are obtained based on a χ^2 distribution with d.f. = 1. *P*-values smaller than 0.01 are shown in boldfaces.

^dPositively selected amino acid sites using the Bayes Empirical Bayes (BEB) inference. Posterior probabilities are shown in parentheses, in boldfaces when *P* > 0.95. The position numbers are based on the human TAAR1 sequence.