

Table S1. List of odorants used in the functional analysis of OR7D4 and OR7D1 orthologs

A. List of sex-steroid derived odorants used

IUPAC name	Common name	Structure
5- α -Androst-16-en-3-one	androstenone	
Androsta-4,16-dien-3-one	androstadienone	
5- α -Androst-16-en-3- α -ol	androstenol	
5- α -Androst-16-en-3- β -ol	3- <i>epi</i> -androstenol	
5- α -Androst-16-en-3-methyl ketal	androstenone methyl ketal	
3- α -Hydroxy-5- α -androstan-17-one	androsterone	
3- β -Hydroxy-5- α -androstan-17-one	3- <i>epi</i> -androsterone	
3- β -Hydroxyandrost-5-en-17-one	DHEA	
Estra-1,3,5(10),16-tetraen-3-ol	estratetraenol	
17- β -Estradiol	estradiol	

B. List of 10 mixtures of 169 odorants used in a screen for OR7D1 ligands

Mixture	Odorant
1	(+)-Carvone
	(-)-Carvone
	Citral
	(1R)-(-)-Fenchone
	(+)-Fenchone
	(-)-Rose oxide
	(+)-Rose oxide
	D-Carvone
	(-)-Camphor
	(S)-(-)-Limonene
	(R)-(+)-1-Phenylethanol
	(S)-(+)-2-Phenylbutyric acid
	(R)-(-)-2-Phenylbutyric acid
	2-Hexanone
	1-Pentanol
	(±)-2-Butanol
	1-Propanol
2	1-Hexanol
	(-)-Menthol
	(R)-(-)-2-Heptanol
	(+)-Menthol
	2-Methyl-2-heptanol
	(S)-(+)-2-Octanol
	(S)-(+)-2-Heptanol
	1-Decanol
	(-)-beta-Citronellol
	(S)-(-)-1-Phenylethanol
	(R)-(-)-2-Butanol
	Propanal
	Undecanal
	Octanal
	trans-Cinnamaldehyde
	Nonanal
3	Heptaldehyde
	Decanal
	Hexanoic acid
	Heptanoic acid
	Valeric acid
	Propionic acid
	Butyric acid
	Nonanoic acid
	Methyl propionate
	Ethyl butyrate
	Butyl butyrate
	tert-Butyl propionate
	Methyl butyrate
Propyl butyrate	

	Pentyl acetate
	Isobutylamine
	Geraniol
	2-Pentanone
	2-Butanone
4	(1S)-(-)-alpha-Pinene
	1,4-Cineole
	Phenetole
	(R)-(+)-Pulegone
	Benzyl alcohol
	Guaiacol
	Isopentylamine
	g-Caprolactone
	Allyl heptanoate
	a-Amylcinnamaldehyde
	Amyl hexanoate
	Amylbutyrate
	Anethole
	Anisaldehyde
	Benzophenone
5	Benzyl acetate
	Benzyl salicylate
	Butyl heptanoate
	(+)-Camphor
	Cedryl acetate
	Cinnamyl alcohol
	Cinnamaldehyde
	(R)-(+)-Citronellal
	(S)-(-)-Citronellal
	Citronellol
	Coumarin
	Cyclohexanone
	p-Cymene
	5,5-Dimethyl-1,3-cyclohexanedione
	3-Octanone
	Eucalyptol
	Heptyl isobutyrate
	Hexyl acetate
	a-Hexylcinnamaldehyde
6	Isobornyl acetate
	Linalool
	Lyral
	Hydroxycitronellal
	p-Tolyl isobutyrate
	o-Tolyl isobutyrate
	p-Tolyl phenylacetate
	2-Methoxy-3-Methyl-pyrazine
	2-Methoxypyrazine
	Methyl salicylate
	Myrcene

w-Pentadecalactone
Prenylacetate
2-Phenylethanol
2-Phenethyl acetate
Piperonal
Pyrazine
Thymol
Triethylamine

7 2-Heptanone
Methyl eugenol
Eugenol
Eugenol methyl ether
Butanal
Hexanal
1-Hexanol
1-Pentanol
Pentanal
Nonanedioic acid
Isovaleric acid
Heptanoic acid
Decanoic acid
Valeric acid
Vanillic acid
Hexanoic acid
Octanoic Acid

8 1-Octanol
4-Ethylphenol
1-Heptanol
Heptaldehyde
1-Decanol
1-Nonanol
Decanal
Nonanal
Ethyl vanillin
Vanillin
Acetophenone
2-Ethylphenol
Guaiacol
Allylbenzene
Octanal
2-Bromophenol
Benzaldehyde
Piperonyl alcohol
Piperonyl acetate
4-Hydroxycoumarin

9 4-Chromanone
2-Coumaranone
Tetrahydrofuran
Tetrahydropyran
Benzaldehyde dimethyl acetal

(1S)-(-)-alpha-Pinene
Allyl phenylacetate
Dicyclohexyl disulfide
2-,3-,10-Mercaptopinane
1,4-Cineole
Butyl butyryllactate
1,3-Butanedithiol
Cyclopentanethiol
2-Acetyl-3,5(6)-dimethylpyrazine
2,2'-(Dithiodimethylene)difuran
Thioglycolic acid

10 d-Valerolactone
2-Furyl methyl ketone
Acetal
Tetrahydrofurfuryl acetate
2,3-Diethyl-5-methylpyrazine
Butyl formate
Pyridine
Pyrrole
Piperidine
2-Methyl-1-propanethiol
Ethyl salicylate
Ethyl pyruvate
