Figure 7.
E-liquid flavoring agent inhibition of microsomal recombinant CYP2A6

Isoamyl Acetate

Concentration	Mean	SEM
0.0305	2	1
0.1221	3	2
0.4883	1	1
1.9531	3	1
7.8125	3	2
31.25	4	1
125	6	2
500	10	3

Ethyl Vanillin

Concentration	Mean	SEM
0.0305	4	1
0.1221	7	1
0.4883	6	2
1.9531	7	2
7.8125	13	2
31.25	34	2
125	69	1
500	93	0

Vanillin

Concentration	Mean	SEM
0.0305	2	1
0.1221	4	1
0.4883	5	2
1.9531	9	1
7.8125	15	3
31.25	35	5
125	69	5
500	91	3

Benzaldehyde

Concentration	Mean	SEM
0.0305	12	2
0.1221	20	3
0.4883	29	5
1.9531	48	8

7.8125	70	6
31.25	87	3
125	96	1
500	98	1

Cinnamaldehyde

Concentration	Mean	SEM
0.0305	17	3
0.1221	22	3
0.4883	39	4
1.9531	64	5
7.8125	80	3
31.25	87	3
125	89	4
500	93	2

E-cigarette liquid flavoring agents identified in e-cigarette liquids tested earlier, as well as isoamyl acetate and benzaldehyde, were screened for inhibition of CYP2A6 at concentrations ranging from 0.03 to 500 μM. The two smallest aromatic aldehydes, cinnamaldehyde and benzaldehyde, exhibited the strongest dose-dependent inhibition of microsomal recombinant CYP2A6. The large molecular weight aromatic aldehydes vanillin and ethyl vanillin exhibited a less potent inhibition of microsomal recombinant CYP2A6. Isoamyl acetate, an aliphatic ester, exhibited no inhibition of microsomal recombinant CYP2A6 at even the highest concentration. Results were used to calculate IC_{50} values using GraphPad Software Inc. Prism 8.0.1. Percent inhibition calculated from the PG/VG baseline. Each concentration was screened on three separate days in duplicate (n=3). Mean +/- SEM

uM: micromolar
SEM: standard error of the mean
v: volume
CYP2A6: cytochrome (enzyme) 2A6
IC50: 50% Inhibitory Concentration
PG: polyethylene glycol
VG: vegetable glycerin
AW: apple watermelon
SP: strawberry poptart
FT: flame thrower
p: p-value