Ausschnitte aus der unten genannten Literatur

Table 1. Abilities of test compounds to displace (±)-[^{125}I]DOI and activate PI hydrolysis at rat 5-HT$_{2A}$ receptors.

Data are represented as the mean and (SEM) from non-linear regression fits of a single binding site model for K_i values and normalize variable slope sigmoidal dosage-response curves for estimates of EC50 and intrinsic activity. All data are from at least three independent experiments. A typical experiment would show 10-20 fold stimulation by 5-HT over basal for PI hydrolysis assays.

Drug	K_i	r5-HT$_{2A}$R PI Hydrolysis	
	r5-HT$_{2A}$ (nM) (±)-[^{125}I]DOI	EC50 (nM)	Intrinsic Activity (% 5-HT)
25H	227 (39)	12877 (1930)	82(8)
25H-NMe	1286 (64)		
25H-NPr	734 (30)		
25H-NB	17.5 (1.9)		
25H-NBOMe	1.19 (0.17)	81.2 (3.8)	81 (0.4)
25H-NBOH	2.76 (0.40)	141 (21)	66 (2)
24	202 (19)	4034 (260)	67 (8)
24-NB	28.5 (2.9)		
24-NBOMe	0.68 (0.12)	51.0 (6.7)	72(1)
24-NBOH	0.67 (0.01)	74.0 (6.7)	82(4)
DOI	0.58 (0.06)	19.2 (2.6)	77 (3)
DOI-NBOMe	1.08 (0.21)	36.1 (2.7)	43 (3)
25I	0.62 (0.08)	19.0 (2.6)	59 (4)
25I-NB	0.31 (0.03)	12.0 (0.7)	37 (2)
25I-NNap	3.74 (0.52)	> 1 μM	25 @ 10 μM
25I-NBOMe	0.087 (0.010)	2.50 (0.55)	78 (6)
25I-NBOH	0.12 (0.02)	6.34 (0.18)	71 (2)
25I-NBF	0.28 (0.04)	23.2 (1.2)	32 (3)
25I-NBMD	0.19 (0.02)	8.2 (1.6)	68 (7)

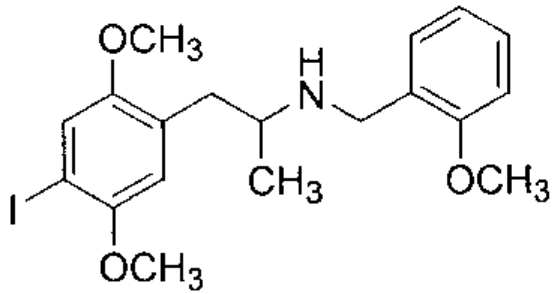
Table 2. Abilities of test compounds to displace (±)-[^{125}I]DOI or [^{3}H]ketanserin at wild type and mutant h5-HT$_{2A}$ receptors.

Data are represented as the mean and (SEM) in nM of K_i values from non-linear regression fits of a single binding site model from at least three independent experiments. $\Delta\Delta G°$ values are calculated from K_i values at 25°C. ** indicates $p<0.01$ for values of ΔpK_i from unpaired two-tailed Student T-tests between mutant and wild type receptors tested with the same radioligand.

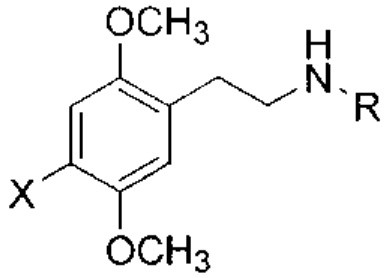
Drug	(±)-[^{125}I]DOI			[^{3}H]Ketanserin		
	h5-HT$_{2A}$ K_i (nM)	h5-HT$_{2A}$/F339L K_i (nM)	$\Delta\Delta G°$ (kcal/mol)	h5-HT$_{2A}$ K_i (nM)	h5-HT$_{2A}$/F340L K_i (nM)	$\Delta\Delta G°$ (kcal/mol)
5-HT	4.84 (0.2)	59.6 (10.0)**	1.5	77.6 (13.8)	192725 (36305)**	4.6
d-LSD	0.40 (0.02)	0.60 (0.12)	0.2	0.81 (0.16)	13.01 (1.09)**	1.6
psilocin	11.8 (1.2)	28.6 (4.3)**	0.5	22.8 (4.0)	3659 (243)**	3.0
5-MeO-DMT	7.54 (1.06)	129 (15)**	1.7	49.2 (3.2)	23726 (4726)**	3.7
mescaline	1499 (245)	4488 (608)	0.6	14640 (2447)	62425 (10485)**	0.9
25H	377 (67)	5786 (734)**	1.6	1999 (311)	16001 (3163)**	1.2
25H-NMe	1907 (254)	8719 (671)**	0.9	5934 (92)	43918 (2271)**	1.2
25H-NPr	1295 (151)	7863 (769)**	1.1	3597 (642)	9815 (943)**	0.6
25H-NB	68.1 (10.6)	2722 (470)**	2.2	184 (33)	6698 (1031)**	2.1
25H-NBOMe	2.83 (0.31)	1435 (192)**	3.5	11.0 (0.5)	689 (107)**	2.5
25H-NBOH	3.73 (0.45)	2642 (455)**	3.9	11.6 (1.7)	277 (40)**	1.9
24	298 (29)	1013 (190)**	0.7	999 (182)	8391 (1200)**	1.3
24-NB	26.6 (2.7)	1768 (339)**	2.5	71.9 (3.0)	3316 (356)**	2.3
24-NBOMe	1.71 (0.34)	252 (49)**	3.0	5.24 (1.01)	703 (14)**	2.9
24-NBOH	1.51 (0.20)	306 (57)**	3.1	2.83 (0.36)	292 (14)**	2.7
25I	0.73 (0.06)	2.63 (0.32)**	0.8	4.52 (0.30)	28.9 (4.8)**	1.1
25I-NB	0.25 (0.05)	3.1 (0.1)**	1.3	0.28 (0.02)	27.0 (1.8)**	2.7
25I-NNap	4.83 (0.55)	157 (31)**	2.1	6.68 (1.02)	268 (268)**	2.1
25I-NBOMe	0.044 (0.006)	2.08 (0.35)**	2.3	0.15 (0.03)	4.3 (0.76)**	2.1
25I-NBOH	0.061 (0.012)	1.84 (0.16)**	2.0	0.068 (0.012)	1.58 (0.17)**	1.9
25I-NBF	0.26 (0.05)	15.2 (1.7)**	2.4	0.19 (0.03)	37.9 (1.3)**	3.1
25I-NBMD	0.049 (0.008)	0.29 (0.03)**	1.1	0.21 (0.03)	0.94 (0.17)**	0.9

Table 3. Ability of compounds to activate PI hydrolysis at wild type and mutant h5-HT$_{2A}$ receptors.
Data are represented as the mean and (SEM) of computer-derived estimates of EC50 and Intrinsic Activity values from at least three independent experiments. A typical experiment would show 4-10 fold stimulation by 5-HT over basal. ** indicates $p<0.01$ values for ΔpEC50 and ΔInt.Act. from two-way ANOVA tests with Bonferroni post-tests.

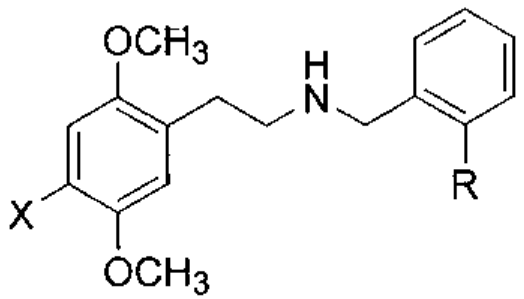
Drug	h5-HT$_{2A}$		h5-HT$_{2A}$/F339L		h5-HT$_{2A}$/F340L	
	EC50 PI Hydrolysis (nM)	Intrinsic Activity (% 5-HT)	EC50 PI Hydrolysis (nM)	Intrinsic Activity (% 5-HT)	EC50 PI Hydrolysis (nM)	Intrinsic Activity (% 5-HT)
5-HT	5.17 (0.97)	100	92.4 (10.5)**	100	9840 (458)**	100
d-LSD	0.22 (0.04)	84 (3)	1.36 (0.23)**	55 (5)**	15.7 (2.9)**	20 (5)**
psilocin	7.29 (0.72)	105 (9)	129 (18)**	44 (8)**	4529 (813)**	9 (1)**
5-MeO-DMT	4.33 (0.78)	98 (4)	416 (71)**	74 (5)**	5255 (969)**	15 (4)**
mescaline	1117 (223)	83 (5)	11333 (991)**	82 (7)	78795 (3869)**	30 (1)**
25H	1021 (14)	96 (10)	10353 (1652)**	78 (1)	141033 (39537)**	12 (4)**
✗ 25H-NBOMe	15.3 (3.7)	88 (6)	3407 (390)**	27 (4)**	1341 (53)**	43 (5)**
25H-NBOH	23.5 (1.8)	100 (6)	11267 (758)**	32 (6)**	2156 (503)**	28 (3)**
24	832 (200)	83 (5)	4077 (579)**	66 (4)	109311 (37671)**	17 (1)**
×24-NBOMe	4.00 (0.80)	89 (6)	1436 (281)**	55 (5)**	2029 (199)**	66 (8)
24-NBOH	5.42 (0.66)	84 (4)	5623 (29)**	49 (8)**	696 (139)**	31 (3)**
25I	2.54 (0.18)	82 (3)	22.8 (2.7)**	72 (5)	99.5 (5.3)**	38 (2)**
25I-NB	1.96 (0.12)	66 (2)	1093 (353)**	14 (2)**	263 (40)**	82 (1)
25I-NBOMe	0.44 (0.07)	81 (4)	28.0 (5.2)**	51 (4)**	26.8 (4.2)**	84 (7)
25I-NBOH	0.19 (0.03)	86 (5)	42.3 (6.5)**	45 (6)**	14.6 (2.9)**	82 (7)
25I-NBF	1.55 (0.21)	87 (11)	150 (25)**	8 (1)**	410 (33)**	81 (6)
25I-NBMD	1.07 (0.20)	72 (3)	91.0 (30.9)**	11 (1)**	145 (25)**	70 (5)



DOI-NBOMe

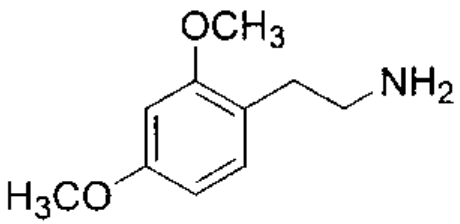


25I (2C-I); X = I, R = H ←
25H; X = H, R = H
25H-NMe; X = H, R = CH_3
25H-NPro; X = H, R = nPr



25H-NB; X = H, R = H
25H-NBMeO; X = H, R = OCH_3 ←
25H-NBOH; X = H, R = OH ←

25I-NB; X = I, R = H ←
25I-NBMeO; X = I, R = OCH_3 ←
25I-NBOH; X = I, R = OH ←
25I-NBF; X = I, R = F ←



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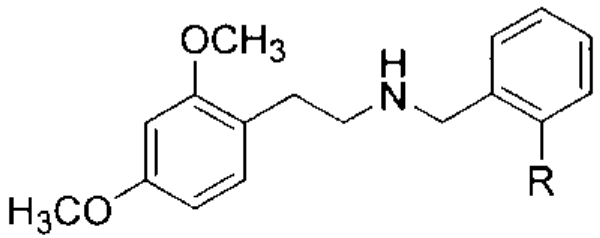
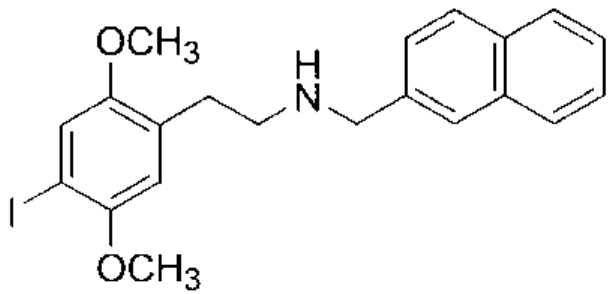


24-NB; R = H
24-NBMeO; R = OCH_3 ←
24-NBOH; R = OH ←



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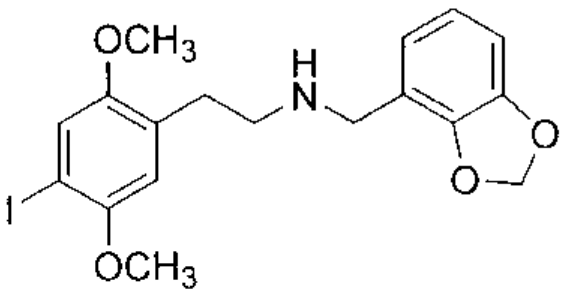
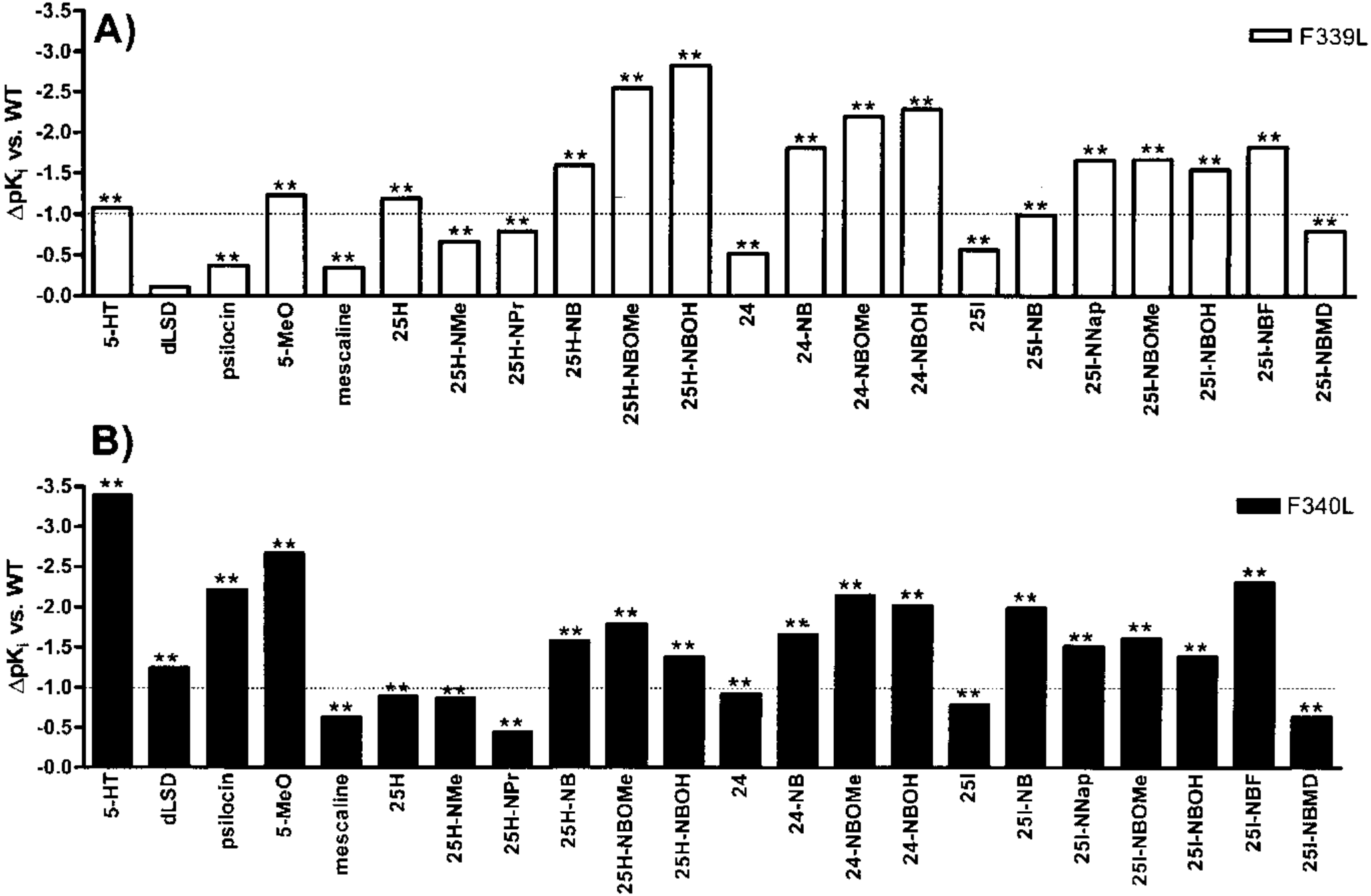


25I-NBMD


A)
F339L
ΔpK$_i$ vs. WT
-3.5
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
-0.0
**
5-HT
dLSD
psilocin
5-MeO
mescaline
25H
25H-NMe
25H-NPr
25H-NB
25H-NBOMe
25H-NBOH
24
24-NB
24-NBOMe
24-NBOH
25I
25I-NB
25I-NNap
25I-NBOMe
25I-NBOH
25I-NBF
25I-NBMD
B)
F340L
ΔpK$_i$ vs. WT
-3.5
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
-0.0
**
5-HT
dLSD
psilocin
5-MeO
mescaline
25H
25H-NMe
25H-NPr
25H-NB
25H-NBOMe
25H-NBOH
24
24-NB
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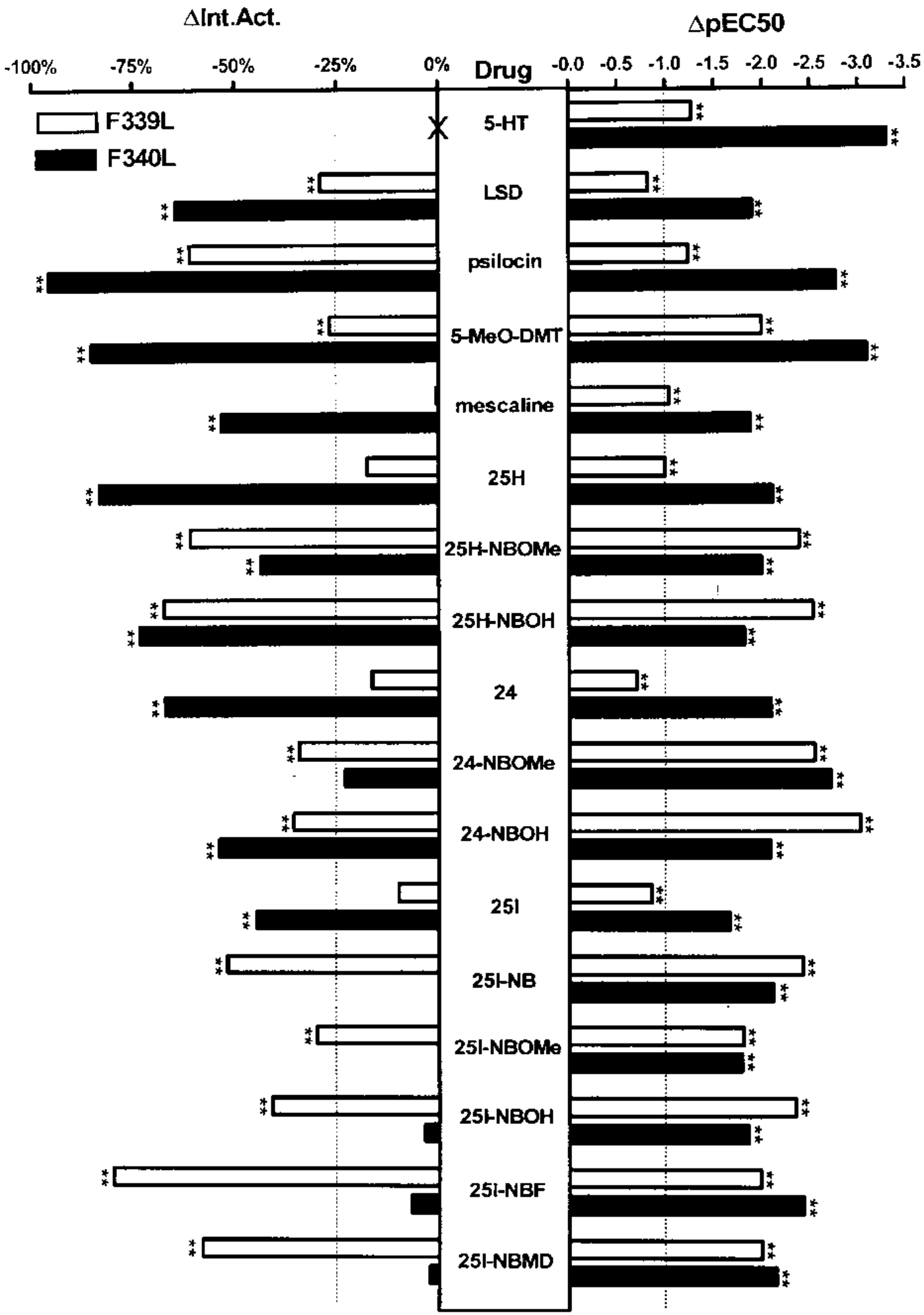
25I-NBOMe
25I-NBOH
25I-NBF
25I-NBMD


ΔInt.Act.
ΔpEC50
-100%
-75%
-50%
-25%
0%
Drug
-0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
F339L
F340L
5-HT
LSD
psilocin
5-MeO-DMT
mescaline
25H
25H-NBOMe
25H-NBOH
24
24-NBOMe
24-NBOH
25I
25I-NB
25I-NBOMe
25I-NBOH
25I-NBF
25I-NBMD

Running Title: Aromatic interactions of 5-HT_{2A} agonists

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Abbreviations: 5-HT, 5-hydroxytryptamine, serotonin; **dLSD**, d-lysergic acid diethylamide; **psilocin**, 4-hydroxy-*N*,*N*-dimethyltryptamine; **5-MeO-DMT**, 5-methoxy-*N*,*N*-dimethyltryptamine; **mescaline**, 3,4,5-trimethoxyphenethylamine; **DOI**, 4-iodo-2,5-dimethoxyphenylisopropylamine; **DOI-NBOMe**, *N*-(2-methoxybenzyl)-4-iodo-2,5-dimethoxyphenylisopropylamine; **25H**, 2,5-dimethoxyphenethylamine; **25H-NMe**, *N*-methyl-2,5-dimethoxyphenethylamine; **25H-NPr**, *N*-propyl-2,5-dimethoxyphenethylamine; **25H-NB**, *N*-benzyl-2,5-dimethoxyphenethylamine; **25H-NBOMe**, *N*-(2-methoxybenzyl)-2,5-dimethoxyphenethylamine; **25H-NBOH**, N-(2-hydroxybenzyl)-2,5-dimethoxyphenethylamine; **24**, 2,4-dimethoxyphenethylamine; **24-NB**, *N*-benzyl-2,4-dimethoxyphenethylamine; **24-NBOMe**, *N*-(2-methoxybenzyl)-2,4-dimethoxyphenethylamine; **24-NBOH**, *N*-(2-hydroxybenzyl)-2,4-dimethoxyphenethylamine; **25I**, 2CI, 4-iodo-2,5-dimethoxyphenethylamine; **25I-NB**, *N*-benzyl-4-iodo-2,5-dimethoxyphenethylamine; **25I-NNap**, *N*-methylnapthyl-4-iodo-2,5-dimethoxyphenethylamine; **25I-NBOMe**, *N*-(2-methoxybenzyl)-4-iodo-2,5-dimethoxyphenethylamine; **25I-NBOH**, *N*-(2-hydroxybenzyl)-4-iodo-2,5-dimethoxyphenethylamine; **25I-NBF**, *N*-(2-fluorobenzyl)-4-iodo-2,5-dimethoxyphenethylamine; **25I-NBMD**, *N*-(2,3-methylenedioxybenzyl)-4-iodo-2,5-dimethoxyphenethylamine; **8-OH-DPAT**, 8-hydroxy-2-(dipropylamino)tetralin; **PI**, phosphatidylinositide(s); **TM**, transmembrane.

Lit.2: Molecular Pharmacology Fast Forward. Published on September 25, 2006 as doi:10.1124 / mol.106.0287; MOL #28720:
"Molecular interaction of serotonin 5-HT_{2A} receptor residues Phe339(6.51) and Phe340(6.52) with super-potent *N*-benzyl phenethylamine agonists",
Michael R. Braden, Jason C. Parrish, John C. Naylor, David E. Nichols, Department of Medicinal Chemistry and Molecular Pharmacology, School of Pharmacy and Pharmaceutical Sciences, Purdue University, West Lafayette, IN 47907.
s.a.
http://en.wikipedia.org/wiki/25I-NBOMe