

Dataset of experimental studies reporting connection probabilities and/or unitary PSP amplitudes

The table contains experiments with at least 20 connected neuron pairs or paired recordings. Excitatory projections to principal cells are in blue and inhibitory projections are in red. Abbreviations used in the “Brain area” column: FC – frontal cortex, SS – somatosensory cortex, BC – barrel cortex, VC – visual cortex, mPFC – medial prefrontal cortex, AC – auditory cortex, CB – cerebellum, PFC – prefrontal cortex, TC – temporal cortex, PC – parietal cortex, HC – hippocampus, SM – sensorimotor cortex, MC – motor cortex. Abbreviations used in the “Projection” column: L – cortical layer, PC – pyramidal cell, EXC – excitatory cells, IN – unclassified inhibitory cell, TC – thalamocortical, RS – regular spiking excitatory cell, LTS – low threshold spiking inhibitory cell, FS – fast spiking inhibitory cell, MB – multipolar bursting inhibitory cell, SOM – somatostatin positive inhibitory cell, CC – corticocally projecting, TT – thick tufted, CCS – crossed corticostriatal, M – Martinotti cell, BLA – basolateral amygdala. SD is standard deviation, CV is coefficient of variation.

#	Species	Brain area	Projection	Age	P_{con} (# connected pairs)	Unitary PSP amplitude mean \pm SD [mV] (# of pairs)	CV	Reference
1	rat	FC & SS	L4 PC \rightarrow L4 PC	adult	0.04 (22)			¹
2	rat	BC	TC EXC \rightarrow L4 RS	P14-21		2.4 \pm 2.0 (23)	0.83	²
3	rat	BC	L4 LTS \rightarrow L4 RS	P14-21	0.35 (26)	0.48 \pm 0.45 (25)	0.94	²
4	rat	BC	L4 FS \rightarrow L4 RS	P14-21	0.44 (83)	1.1 \pm 0.8 (69)	0.73	²
5	rat	VC	L5 PC \rightarrow L5 PC	P14-18	0.06 (32)	1.35 \pm 1.35 (20)	1.0	³
6	rat	mPFC	L5 PC \rightarrow L5 PC	P14-18	0.05 (28)	1.22 \pm 1.03 (22)	0.84	³
7	rat	AC	L5 PC \rightarrow L5 PC	P14-18	0.18 (37)	1.4 \pm 1.01 (29)	0.72	³
8	rat	SS	L5 PC \rightarrow L5 PC	P14-18	0.14 (581)	1.46 \pm 1.3 (171)	0.88	³
9	rat	SS	L5 PC \rightarrow L5 PC	P14-18	0.14 (463)			⁴
10	mouse	FC and SS	L2/3 MB \rightarrow L2/3 PC	P14	0.41 (41)	1.21 \pm 1.18 (41)	0.98	⁵
11	rat	-	L5 PC \rightarrow L5 PC	P13-20	0.35 (151)			⁶
12	rat	CB	Granule cell \rightarrow Purkinje cell	P60-90	0.071 (34)	0.072 \pm 0.064 (104)	0.89	⁷⁻⁸
13	rat	SS	L5 PC \rightarrow L5 PC	P26-29	0.1 (21)			⁹
14	rat	SS	L5 PC \rightarrow L5 PC	P16-21	0.1 (40)	0.67 \pm 0.6 (36)	0.90	⁹
15	rat	BC	L4 EXC \rightarrow L4 EXC	P12-15	0.20-0.31 (132)	1.6 \pm 1.5 (132)	0.95	¹⁰
16	rat	BC	L4 EXC \rightarrow L2/3 PC	P17-23		0.7 \pm 0.6 (64)	0.86	¹¹
17	rat	SS	L2/3 PC \rightarrow L2/3 PC	P17-23		1 \pm 0.7 (35)	0.70	¹²
18	mouse	FC	L2/3 SOM \rightarrow L2/3 PC	P11-16	0.7 (28)			¹³
19	mouse	FC	L2/3 SOM \rightarrow L2/3 PC	P11-16	0.48 (61)			¹³
20	mouse	FC	L2/3 SOM \rightarrow L2/3 PC	P11-16	0.71 (61)			¹³
21	mouse	FC	L2/3 SOM \rightarrow L2/3 PC	P11-16	0.73 (61)			¹³
22	mouse	FC	L2/3 SOM \rightarrow L2/3 PC	P11-12	0.49 (26)			¹³
23	mouse	FC	L2/3 SOM \rightarrow L2/3 PC	P13-14	0.38 (28)			¹³
24	rat	SS	L5A PC \rightarrow L5A PC	P24-29		0.65 \pm 0.77 (24)	1.2	¹⁴
25	rat	SS	L5A PC \rightarrow L5A PC	P17-20		1.24 \pm 1.28 (27)	1.0	¹⁴
26	rat	SS	L5A PC \rightarrow L5A PC	P14-16		1.11 \pm 1.01 (29)	0.91	¹⁴
27	rat	SS	L5A PC \rightarrow L5A PC	P18-20		1.24 \pm 1.28 (27)	1.0	¹⁵
28	ferret	PFC	L5 PC \rightarrow L5 PC	P45-60		1.01 \pm 0.69 (39)	0.68	¹⁶
29	rat	VC	L2/3 PC \rightarrow L5 PC	P19-27	0.1 (20)	0.24 \pm 0.26 (20)	1.1	¹⁷

30	rat	VC	L5 PC → L5 PC	P19-27	0.14 (23)	0.5 ± 0.5 (23)	1.0	17
31	rat	VC	L2/3 PC → L2/3 PC	P19-27	0.14 (137)	0.43 ± 0.43 (137)	0.99	17
32	mouse	VC	L2/3 PC → L2/3 PC	adult	0.19 (45)			18
33	rat	VC & SS	L2/3 PC → L2/3 PC	P14-16	0.06 (83)	0.65 ± 0.64 (83)	0.98	19
34	rat	VC & SS	L2/3 FS → L2/3 PC	P14-16	0.55 (109)	3.0 ± 2.5 (109)	0.85	19
35	mouse	VC	L2/3 PC → L2/3 PC	P22-26	0.19 (43)			20
36	mouse	VC	L2/3 PC → L2/3 PC	P22-26	0.17 (25)			20
37	rat	SS	L5 PC → L5 PC	P12-14	0.13 (218)			21
38	rat	SS	L5 CC PC → L5 CC PC	P14	0.03 (40)			22
39	rat	SS	L5 TT PC → L5 TT PC	P14	0.11 (24)	1.2 ± 0.98 (24)	0.82	22
40	mouse	BC	L2 PC → L5A PC	P18-21	0.09 (20)	0.55 ± 0.8 (20)	1.5	23
41	mouse	BC	L3 PC → L5B PC	P18-21	0.12 (20)	1.01 ± 1.07 (20)	1.1	23
42	mouse	BC	L3 PC → L2 PC	P18-21	0.12 (22)	0.71 ± 0.7 (22)	0.99	23
43	mouse	BC	L4 EXC → L2 PC	P18-21	0.12 (25)	0.98 ± 1.2 (25)	1.2	23
44	mouse	BC	L4 EXC → L3 PC	P18-21	0.15 (25)	0.58 ± 0.65 (25)	1.1	23
45	mouse	BC	L4 EXC → L5A PC	P18-21	0.12 (32)	0.54 ± 0.51 (32)	0.94	23
46	mouse	BC	L5B PC → L5B PC	P18-21	0.07 (40)	0.71 ± 1.2 (40)	1.7	23
47	mouse	BC	L2 PC → L2 PC	P18-21	0.09 (88)	0.64 ± 0.56 (88)	0.88	23
48	mouse	BC	L3 PC → L3 PC	P18-21	0.19 (96)	0.78 ± 0.69 (96)	0.88	23
49	mouse	BC	L5A PC → L5A PC	P18-21	0.19 (178)	0.66 ± 0.8 (178)	1.2	23
50	mouse	BC	L4 EXC → L4 EXC	P18-21	0.24 (254)	0.95 ± 1.27 (254)	1.3	23
51	rat	BC	L4 LTS → L4 RS	P14-15	0.52 (27)	0.79 ± 0.37 (27)	0.47	24
52	rat	BC	L4 LTS → L4 RS	P12-13	0.43 (30)	0.52 ± 0.26 (30)	0.50	24
53	rat	SS	L5 PC → L5 PC	P14-16	0.1 (138)	1.3 ± 1.1 (138)	0.85	25
54	rat	VC	L2/3 PC → L2/3 PC	122-188g	0.09 (48)	0.55 ± 0.49 (47)	0.89	26
55	guinea pig	HC	CA3 IN → CA3 PC	200-300g		0.95 ± 0.65 (34)	0.68	27
56	human	TC,FC,PC	L2/3 PC → L2/3 PC	P18-73	0.31 (38)	1.11 ± 0.8 (38)	0.73	28
57	rat	FC	L5 CCS PC → L5 CCS PC	P19-23	0.1 (31)			29
58	mouse	AC	L2/3 FS → L2/3 PC	P14-29	0.51 (151)	0.7 ± 0.45 (38)	0.64	30
59	rat	SS	L5 PC → L5 PC	P14-16	0.18 (>100)			31
60	rat	BC	L4 EXC → L4 EXC	P13-15	0.36 (52)	0.86 ± 1.1 (64)	1.3	32
61	rat	HC	CA3 IN → CA3 PC	P6 cultured		3.6 ± 2.87 (33)	0.80	33
62	rat	SM	L2/3 PC → L2/3 PC	P14		0.5 ± 0.5 (44)	1.0	34
63	rat	SM	L5 PC → L5 PC	P14		1 ± 0.9 (52)	0.90	34
64	rat	SM	L2/3 PC → L5 PC	P14		0.3 ± 0.3 (55)	1.0	34
65	guinea pig	HC	CA3 PC → CA1 PC	600-900g	0.063 (72)	0.13 ± 0.11 (74)	0.83	35
66	rat	SS	L5 M → L5 PC	P14-16	0.79 (36)	0.5 ± 0.4 (36)	0.80	36
67	rat	SS	L5 PC → L5 PC	P14-16	0.12 (173)			36
68	rat	SS	L5 PC → L5 PC	P12-15	0.12 (35)			37
69	rat	VC	L5 TT PC → L5 TT PC	P12-21	0.15 (239)	0.73 ± 0.63 (139)	0.86	38
70	rat	VC	L5 PC → L5 PC	P12-20	0.12 (931)	0.77 ± 0.84 (931)	1.1	39
71	rat	SS, MC,VC	L2/3 PC → L2/3 PC	young adult	0.26 (65)	1.7 ± 1.3 (38)	0.76	40
72	rat	CB	IN → Purkinje cell	P9-15	0.7 (29)			41
73	ferret	mPFC	L5 PC → L5 PC	P45-60	0.12 (148)			42
74	mouse	amygdala	BLA IN → BLA EXC	P16-25	0.5 (80)			43

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