

No.	Animal	Functional category	Cerebral area		Brodmann Area	No. of neurons	Isp		Isp		p		E _p		Animal Species	Task	Electrode	Principal researcher	Reference
			Mean	Dispersion			Mean	Dispersion	Mean	Dispersion	Mean	Dispersion							
1	Rat	Misc	MI	Primary motor cortex	Area 4	30	0.72	0.59	2.19	0.73	0.08	0.06	0.58	0.27	Long-Evans rat	A voluntary whole-mount task	A 300-μm diameter with impedance of 10 MΩ, measured at 1 kHz	Furuta	New
2	Rat	Misc	MI / CIA	Primary motor cortex / Caudal forelimb area	Area 4	114	0.47	0.53	1.52	0.61	0.04	0.07	0.71	0.25	Long-Evans rat	An external-muscle feedback movement task	A 300-μm diameter with impedance of 1.2 MΩ, measured at 20 kHz	Isomura	Kimura, K., Sakai, K., Fujiwara, Y., Saito, Y. & Ikenaga, Y. <i>Sci. Neurosci. Discov.</i> 1, 17-18, 2012
3	Rat	PF	mPFC	Prefrontal cortex	NA	23	0.03	0.28	1.48	0.46	0.01	0.06	0.97	0.19	Wistar albino rat	A reaction time task	A reaction time task composed of four tangential motor neurons with impedance of 400 kΩ, measured at 1 kHz	Sakata	New
4	Rat	PF	mPFC	Medial prefrontal cortex	NA	40	-0.07	0.31	1.71	0.78	0.08	0.05	0.95	0.19	Long-Evans rat	A working memory task in maze	Shimizu probe with 32-64 channels with impedance of 100 kΩ, measured at 1 kHz (NeuroTrace USA)	Fujiwara	Fujiwara, S., Amatsugu, A., Harrison, M. T. & Buskirk, G. <i>Nat. Neurosci.</i> 11, 823-833, 2008
5	Rat	Sensory	S1 / Barrel cortex	Primary somatosensory cortex	NA	32	-0.13	0.34	2.07	0.53	0.09	0.08	0.98	0.24	Sprague Dawley rat	A spinarole blockade task	Optimized glass-coated tungsten electrodes with impedance of 1.5 MΩ, measured at 1 kHz	Furuta	New
6	Rat	Hippocampus	Subiculum	Subiculum	NA	81	-0.20	0.46	1.77	0.57	0.07	0.09	1.03	0.24	Sprague Dawley rat	A two-arm bandit task	A two-arm bandit task with impedance of 0.2-0.3 MΩ, measured at 1 kHz	Jung	Lee, H., Ghim, J.-W., Kim, H., Lee, D. & Jung, M.-J. <i>Neurosci.</i> 22, 1953-1961, 2007
7	Rat	Hippocampus	CA1	Hippocampus (CA1)	NA	28	-0.24	0.45	1.93	0.83	-0.01	0.08	1.15	0.27	Long-Evans rat	A working memory task in maze	Shimizu probe with 32-64 channels with impedance of 100 kΩ, measured at 1 kHz (NeuroTrace USA)	Fujiwara	Fujiwara, S., Amatsugu, A., Harrison, M. T. & Buskirk, G. <i>Nat. Neurosci.</i> 11, 823-833, 2008
8	Rat	Hippocampus	CA1	Hippocampus (CA1)	NA	18	-0.43	0.53	1.38	0.77	-0.09	0.12	1.31	0.38	Wistar rat	A memory-based navigation task	HMC-coated tungsten electrodes, with impedance of 1 MΩ, measured at 1 kHz	Takahashi	Takahashi, S., et al. <i>J. Neurosci.</i> 2013
9	Rat	Hippocampus	CA1	Hippocampus (CA1)	NA	66	-0.47	0.50	1.72	0.67	-0.02	0.11	1.22	0.33	Sprague Dawley rat	A two-arm bandit task	Polysiloxane-coated tungsten wires, with impedance of 0.2-0.3 MΩ, measured at 1 kHz	Jung	Eskandar, S. & Sakata, Y. <i>Neuroscience</i> 150(1) pp.105-115, 2009
10	Mouse	Misc	Misc	Misc cortex	NA	26	0.22	0.36	2.09	0.52	0.04	0.06	0.81	0.17	ICR	A memory-based step wheel	Emuloid, with impedance of 100-300 MΩ, measured at 1 kHz	Katokuwa	New
11	Mouse	Hippocampus	CA1	Hippocampus	NA	32	-0.48	0.56	1.82	0.60	-0.00	0.15	1.27	0.40	CS7BL/6 background mice	Freely exploring a circular arena	Emuloid, with impedance of 0.2-0.3 MΩ, measured at 1 kHz	Jung	Lee, J. W., Kim, W. R., Sun, W. & Jung, M. W. <i>Learn. Mem.</i> 16, 1310-1316, 2009
12	Cat	Visual	V1	Primary visual cortex	Area 17	26	-0.14	0.27	1.01	0.56	-0.02	0.09	1.03	0.24	Felis catus	Free viewing of natural images	Emuloid (20 μm diameter wires, with impedance of 1-1.5 MΩ, measured at 1 kHz)	Maldonado	Maldonado, P. E. & Barak, O. <i>Neuroscience</i> 144, 1510-1541, 2007
13	Monkey	Misc	MI	Primary motor cortex	Area 4	29	1.22	1.08	1.03	0.60	0.18	0.12	0.40	0.25	Rhesus monkey (Macaca mulatta)	A wrist extension - flexion task with intertrial delay periods	Glass-insulated Epiphy-ally electrodes, with impedance of 1.2-2.0 MΩ, measured at 1 kHz	Kanata	Kanata, K. & Nishimura, H. <i>J. Neurophysiol.</i> 107, 2001-2005, 2002
14	Monkey	Misc	SMA	Supplementary motor area	Area 6	83	1.28	0.68	1.03	0.49	0.09	0.15	0.43	0.22	Rhesus monkey (Macaca mulatta)	A wrist extension - flexion task with intertrial delay periods	Glass-insulated Epiphy-ally electrodes, with impedance of 1.2-2.0 MΩ, measured at 1 kHz	Kanata	Kanata, K. & Nishimura, H. <i>J. Neurophysiol.</i> 107, 2001-2005, 2002
15	Monkey	Misc	PMD	Ventral premotor cortex	Area 6	30	1.11	0.71	1.27	0.55	0.00	0.19	0.49	0.21	Rhesus monkey (Macaca mulatta)	A wrist extension - flexion task with intertrial delay periods	Glass-insulated Epiphy-ally electrodes, with impedance of 1.2-2.0 MΩ, measured at 1 kHz	Kanata	Kanata, K. & Nishimura, H. <i>J. Neurophysiol.</i> 107, 2001-2005, 2002
16	Monkey	Misc	PMD	Dorsal premotor cortex	Area 6	192	1.08	0.70	1.00	0.55	0.09	0.17	0.51	0.29	Rhesus monkey (Macaca mulatta)	A wrist extension - flexion task with intertrial delay periods	Glass-insulated Epiphy-ally electrodes, with impedance of 1.2-2.0 MΩ, measured at 1 kHz	Kanata	Kanata, K. & Nishimura, H. <i>J. Neurophysiol.</i> 107, 2001-2005, 2002
17	Monkey	Misc	SEF	Supplementary eye field	Area 6	103	0.67	0.56	0.70	0.41	0.13	0.12	0.55	0.24	Rhesus monkey (Macaca mulatta)	A visual tracking task	Glass-insulated Epiphy-ally electrodes, with impedance of 0.8-1.2 MΩ, measured at 1 kHz (FHC, electrical)	Fukushima	Fukushima, J. et al. <i>J. Neurophysiol.</i> 91, 2809-2825, 2004
18	Monkey	Misc	CMA	Rostal cingulate motor area	Area 24	27	0.65	0.44	2.73	0.53	0.05	0.07	0.43	0.23	Rhesus monkey (Macaca mulatta)	A waiting period task	Glass-insulated Epiphy-ally electrodes, with impedance of 1-1.5 MΩ, measured at 1 kHz	Tajiri	Shimomoto, S., Shima, K. & Tajiri, J. <i>Neural Comput.</i> 15, 2823-2842, 2003
19	Monkey	Misc	SMA	Supplementary motor area	Area 6	27	0.57	0.48	2.92	0.58	0.06	0.10	0.66	0.24	Rhesus monkey (Macaca mulatta)	A waiting period task	Glass-insulated Epiphy-ally electrodes, with impedance of 1-1.5 MΩ, measured at 1 kHz	Tajiri	Shimomoto, S., Shima, K. & Tajiri, J. <i>Neural Comput.</i> 15, 2823-2842, 2003
20	Monkey	Misc	MI	Primary motor cortex	Area 4	40	0.50	0.36	2.93	0.62	0.04	0.11	0.69	0.19	Rhesus monkey (Macaca mulatta)	A visuo-motor task	Ush array with 100 μm length, 45-60 μm diameter, with impedance of 1.1 MΩ, Ush array with 100 μm length, 30-40 μm diameter, with impedance of 1.1 MΩ, measured at 1 kHz	Hasegawa	Aztec-McShane, P. J., Hasegawa, N. G., Lee, J.-C., Ross, C. F. & Squire, L. R. <i>J. Neurosci.</i> 24, 1080-1097, 2004
21	Monkey	Misc	pmSMA	Pre-supplementary motor area	Area 6	123	0.47	0.42	2.59	0.57	0.08	0.09	0.68	0.24	Rhesus monkey (Macaca mulatta)	A waiting period task	Glass-insulated Epiphy-ally electrodes, with impedance of 1-1.5 MΩ, measured at 1 kHz	Tajiri	Shimomoto, S., Shima, K. & Tajiri, J. <i>Neural Comput.</i> 15, 2823-2842, 2003
22	Monkey	Misc	FFP	Frontal eye fields	Area 8	45	0.46	0.33	1.03	0.40	0.15	0.11	0.90	0.18	Rhesus monkey (Macaca mulatta)	A visual tracking task	Epiphy-ally insulated tungsten electrodes, with impedance of 0.8-1.2 MΩ, measured at 1 kHz (FHC, electrical)	Fukushima	Fukushima, J., Sato, T., Fukushima, J., Shimomoto, Y. & Kaneko, C. R. <i>J. Neurophysiol.</i> 93, 563-587, 2005
23	Monkey	Visual	MST	Medial superior temporal area	Undefined	77	0.36	0.43	2.89	0.49	0.11	0.11	0.71	0.25	Rhesus monkey (Macaca mulatta)	A centrally placed eye movement task and/or fixation task	Hand-made glass-coated tungsten electrodes, with impedance of 1.5 MΩ, tungsten electrodes, with impedance of 1.5 MΩ, Epiphy-ally insulation (FHC) Parvaneh-C insulation (Microprobes)	Kawano	Ishii, N., Shimomoto, S., Yamane, S., Yamane, A. & Kawano, K. <i>J. Neurophysiol.</i> 93, 3479-3488, 2005
24	Monkey	Visual	V1	Primary visual cortex	Area 17	33	0.35	0.38	3.55	0.42	0.11	0.08	0.67	0.22	Rhesus monkey (Macaca mulatta)	A fixation task	Epiphy-ally insulated tungsten electrodes, with impedance of 1-1.5 MΩ, measured at 1 kHz	Komatsu	Minamoto, M. & Komatsu, H. <i>J. Neurophysiol.</i> 93, 2374-2387, 2005
25	Monkey	Misc	MI / PMd	Primary motor cortex / Dorsal premotor cortex	Area 4 / Area 6	142	0.32	0.46	2.29	0.70	0.11	0.11	0.73	0.23	Rhesus monkey (Macaca mulatta)	An attentional delay reach-to-grasp task	Impregnated IFC (MicroTrace) Ush array, 100 μm configuration, electrode length 1.0 mm, inner electrode diameter 40 μm, 0.3-1.7 MΩ, measured at 100 Hz, inner electrode (44.92 μm) from the constriction, MicroTrace before impregnation	Rakib	Rakib, A., Womelsdorf, T., Gray, S. & Bressler, J. <i>Frontiers in Neurosci.</i> 7, 46, 2013
26	Monkey	PF	PF	Prefrontal cortical area	Area 46	22	0.30	0.14	3.30	0.62	0.03	0.08	0.79	0.11	Rhesus monkey (Macaca mulatta)	A waiting period task	Glass-insulated Epiphy-ally electrodes, with impedance of 1-1.5 MΩ, measured at 1 kHz	Tajiri	Shimomoto, S., Shima, K. & Tajiri, J. <i>Neural Comput.</i> 15, 2823-2842, 2003
27	Monkey	Visual	TE	Visual area TE	Area 21	97	0.15	0.41	2.05	0.75	0.03	0.08	0.87	0.24	Rhesus monkey (Macaca mulatta)	A delayed-matching-to-sample task	Vanillo-coated tungsten electrodes, with impedance of 0.8-1.2 MΩ, measured at 1 kHz	Fujita	Shimomoto, S. et al. <i>PLoS Comput. Biol.</i> 5, 2009
28	Monkey	Visual	TE	Visual area TE	Area 21	103	0.15	0.47	2.49	0.65	0.16	0.13	0.73	0.28	Rhesus monkey (Macaca mulatta)	A visual recognition task	A glass-insulated tungsten electrodes, with impedance of 0.8-1.2 MΩ, measured at 1 kHz	Komatsu	Kanai, K. & Komatsu, H. <i>Nat. Neurosci.</i> 10, 108-116, 2007
29	Monkey	Visual	CIP	Caudal temporal area	NA	100	0.10	0.43	2.65	0.55	0.03	0.11	0.92	0.27	Rhesus monkey (Macaca mulatta)	A delayed match-to-sample task	Epiphy-ally insulated tungsten electrodes, with impedance of 1-1.5 MΩ, measured at 1 kHz	Isomura	Isomura, K., Jiang, M., Sakata, H. & Tera, M. <i>J. Neurosci.</i> 22, 5480-5490, 2002
30	Monkey	Visual	MST	Medial superior temporal area	Undefined	100	0.10	0.38	2.81	0.59	0.07	0.11	0.85	0.26	Rhesus monkey (Macaca mulatta)	A visual tracking task	Epiphy-ally insulated tungsten electrodes, with impedance of 0.8-1.2 MΩ, measured at 1 kHz (FHC, electrical)	Fukushima	Akai, T., Matsui, M. J., Fukushima, J., Kaneko, S. & Fukushima, K. <i>J. Neurophysiol.</i> 93, 2415-2424, 2005
31	Monkey	Hippocampus	Hippocampus	Hippocampus	NA	37	0.06	0.53	2.27	0.76	0.09	0.10	0.87	0.27	Rhesus monkey (Macaca mulatta)	A visual navigation task	A glass-insulated tungsten electrodes, with impedance of 0.5-1.5 MΩ, measured at 100 Hz	Nishijo	Furuya, Y. et al. <i>Hippocampus</i> 24, 113-130, 2014
32	Monkey	Hippocampus	Prefrontal cortex	Prefrontal cortex	NA	23	0.02	0.50	2.07	0.70	0.12	0.12	0.84	0.26	Rhesus monkey (Macaca mulatta)	A visual navigation task	A glass-insulated tungsten electrodes, with impedance of 0.5-1.5 MΩ, measured at 100 Hz	Nishijo	Furuya, Y. et al. <i>Hippocampus</i> 24, 113-130, 2014
33	Monkey	Visual	MT	Visual area MT	Area 19 (undefined)	58	0.02	0.32	3.42	0.54	0.07	0.09	0.86	0.19	Rhesus monkey (Macaca mulatta)	A centrally placed eye movement task and/or fixation task	Hand-made glass-coated tungsten electrodes, with impedance of 1-1.5 MΩ, tungsten electrodes, with impedance of 1.5 MΩ, Epiphy-ally insulation (FHC) Parvaneh-C insulation (Microprobes)	Kawano	Ishii, N., Shimomoto, S., Yamane, S., Yamane, A. & Kawano, K. <i>J. Neurophysiol.</i> 93, 3479-3488, 2005
34	Monkey	Visual	STS	Superior temporal sulcus	Area 21	56	-0.09	0.49	1.47	0.55	0.00	0.09	1.08	0.35	Rhesus monkey (Macaca mulatta)	A free viewing task	Microprobe electrodes (20 μm probe with 100 or 150 μm microprobe array) with impedance of 0.2 MΩ, measured at 1 kHz	Tanaka	New
35	Monkey	PF	PF	Dorsolateral prefrontal cortex	Area 46	131	-0.11	0.29	2.41	0.44	0.05	0.07	1.04	0.17	Rhesus monkey (Macaca mulatta)	An oculomotor delay-response (ODR) task	Epiphy-ally insulated tungsten electrodes, with impedance of 0.2-0.3 MΩ, measured at 1 kHz (FHC, NeuroTrace USA)	Takahashi	Eskandar, S. & Sakata, Y. <i>J. Cogn. Neurosci.</i> 20, 563-570, 2008
36	Monkey	Visual	V4	Visual area V4	Area 19	35	-0.19	0.35	2.56	0.81	0.08	0.13	0.94	0.29	Rhesus monkey (Macaca mulatta)	A visual discrimination task	Epiphy-ally insulated tungsten electrodes, with impedance of 0.2-0.3 MΩ, measured at 1 kHz	Komatsu	Okawa, T. & Komatsu, H. <i>J. Neurosci.</i> 24, 6371-6382, 2004