

Supplementary Table 1:

Deviations from expected cellular composition of the brain

Whole brain	Number of neurons expected for brain mass, $N_{br}=109239790.169 \times M_{br}^{0.923}$			Number of non-neurons expected for brain mass, $NN_{br}=69199591.082 \times M_{br}^{1.011}$		
	Expected	Observed	Deviation*	Expected	Observed	Deviation*
<i>Microcebus murinus</i>	310.50×10^6	393.66×10^6	26.8%	125.37×10^6	138.95×10^6	10.8%
<i>Callimico goeldii</i>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>Macaca fascicularis</i>	7.14×10^9	6.59×10^9	-8.2%	3.33×10^9	3.15×10^9	-5.4%
<i>Macaca radiata</i>	9.41×10^9	8.63×10^9	-7.6%	4.45×10^9	4.88×10^9	9.6%
<i>Papio cynocephalus</i>	22.43×10^9	20.12×10^9	-10.3%	11.06×10^9	9.18×10^9	-17.0%
<i>Callithrix jacchus</i>	1.28×10^9	1.23×10^9	-3.9%	550.66×10^6	590.74×10^6	7.3%
<i>Otolemur garnettii</i>	1.65×10^9	1.60×10^9	-2.9%	720.51×10^6	666.59×10^6	-7.5%
<i>Aotus trivirgatus</i>	2.52×10^9	2.66×10^9	5.7%	1.12×10^9	1.20×10^9	6.5%
<i>Saimiri sciureus</i>	4.74×10^9	5.32×10^9	12.3%	2.17×10^9	2.07×10^9	-4.5%
<i>Cebus apella</i>	8.03×10^9	6.99×10^9	-13.0%	3.77×10^9	3.30×10^9	-12.6%
<i>Macaca mulatta</i>	13.20×10^9	13.54×10^9	2.5%	6.35×10^9	7.16×10^9	12.8%

Supplementary Table 1:

Deviations from expected cellular composition of the brain

Cerebral cortex	Number of neurons expected for cortical mass, $N_{cx}=61684412.324 \times M_{cx}^{0.828}$			Number of non-neurons expected for cortical mass, $NN_{cx}=63504874.736 \times M_{cx}^{1.033}$		
	Expected	Observed	Deviation*	Expected	Observed	Deviation*
<i>Microcebus murinus</i>	56.95×10^6	22.31×10^6	-60.8%	57.48×10^6	70.65×10^6	22.9%
<i>Callimico goeldii</i>	515.32×10^6	357.13×10^6	-30.7%	897.34×10^6	715.33×10^6	-20.3%
<i>Macaca fascicularis</i>	1.20×10^9	800.96×10^6	-33.5%	2.59×10^9	2.76×10^9	6.5%
<i>Macaca radiata</i>	1.53×10^9	1.66×10^9	8.3%	3.48×10^9	3.81×10^9	9.3%
<i>Papio cynocephalus</i>	3.25×10^9	2.88×10^9	-11.6%	8.94×10^9	7.57×10^9	-15.3%
<i>Callithrix jacchus</i>	255.36×10^6	244.72×10^6	-4.2%	373.72×10^6	395.34×10^6	5.8%
<i>Otolemur garnettii</i>	282.79×10^6	226.09×10^6	-20.0%	424.44×10^6	402.07×10^6	-5.3%
<i>Aotus trivirgatus</i>	436.22×10^6	441.90×10^6	1.3%	728.90×10^6	695.42×10^6	-4.6%
<i>Saimiri sciureus</i>	756.77×10^6	1.34×10^9	77.1%	1.45×10^9	1.61×10^9	11.1%
<i>Cebus apella</i>	1.28×10^9	1.14×10^9	-11.3%	2.81×10^9	2.55×10^9	-9.2%
<i>Macaca mulatta</i>	2.24×10^9	1.71×10^9	-17.6%	5.10×10^9	5.27×10^9	3.3%

Supplementary Table 1:

Deviations from expected cellular composition of the brain

Cerebellum	Number of neurons expected for cerebellar mass, $N_{cb}=548551147.038 \times M_{cb}^{0.984}$			Number of non-neurons expected for cerebellar mass, $NN_{cb}=60983508.232 \times M_{cb}^{1.036}$		
	Expected	Observed	Deviation*	Expected	Observed	Deviation*
<i>Microcebus murinus</i>	217.73×10^6	221.39×10^6	1.7%	23.05×10^6	17.43×10^6	-22.4%
<i>Callimico goeldii</i>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>Macaca fascicularis</i>	3.01×10^9	2.57×10^9	-14.5%	366.18×10^6	135.40×10^6	-63.0%
<i>Macaca radiata</i>	3.07×10^9	2.04×10^9	-33.5%	373.31×10^6	453.56×10^9	21.5%
<i>Papio cynocephalus</i>	7.23×10^9	7.79×10^9	7.8%	921.15×10^6	525.98×10^6	-42.9%
<i>Callithrix jacchus</i>	402.46×10^6	361.37×10^6	-10.2%	44.02×10^6	45.36×10^6	21.5%
<i>Otolemur garnettii</i>	654.19×10^6	743.50×10^6	13.7%	73.41×10^6	65.96×10^6	-10.1%
<i>Aotus trivirgatus</i>	941.78×10^6	1.04×10^9	10.4%	107.73×10^6	145.27×10^6	34.8%
<i>Saimiri sciureus</i>	2.30×10^9	1.82×10^9	-21.0%	276.37×10^6	133.02×10^6	-51.9%
<i>Cebus apella</i>	2.46×10^9	2.49×10^9	1.1%	296.37×10^6	245.81×10^6	-17.1%
<i>Macaca mulatta</i>	4.08×10^9	4.55×10^9	11.4%	504.97×10^6	931.03×10^6	84.4%

Supplementary Table 1:

Deviations from expected cellular composition of the brain

Remaining areas	Number of neurons expected for remaining areas mass, $N_{ra}=17916389.377 \times M_{ra}^{0.742}$			Number of non-neurons expected for remaining areas mass, $NN_{ra}=89200864.467 \times M_{ra}^{1.036}$		
	Expected	Observed	Deviation*	Expected	Observed	Deviation*
<i>Microcebus murinus</i>	10.71×10^6	11.01×10^6	2.8%	47.14×10^6	50.86×10^6	7.9%
<i>Callimico goeldii</i>	30.92×10^6	53.91×10^6	74.4%	175.44×10^6	194.53×10^6	10.9%
<i>Macaca fascicularis</i>	52.82×10^6	65.45×10^6	23.9%	340.88×10^6	260.17×10^6	-23.7%
<i>Macaca radiata</i>	79.49×10^6	61.36×10^9	-22.8%	565.78×10^6	616.64×10^6	9.0%
<i>Papio cynocephalus</i>	148.14×10^6	278.15×10^6	87.8%	1.22×10^9	1.08×10^9	-11.8%
<i>Callithrix jacchus</i>	24.07×10^6	29.72×10^6	23.5%	128.66×10^6	145.91×10^6	13.4%
<i>Otolemur garnettii</i>	31.41×10^6	20.80×10^6	-33.8%	178.92×10^6	147.44×10^6	-17.6%
<i>Aotus trivirgatus</i>	41.52×10^6	49.34×10^6	18.8%	252.89×10^6	313.46×10^6	23.9%
<i>Saimiri sciureus</i>	59.18×10^6	65.53×10^6	10.7%	392.41×10^6	302.59×10^6	-22.9%
<i>Cebus apella</i>	87.14×10^6	61.85×10^6	-29.0%	634.06×10^6	506.11×10^6	-20.2%
<i>Macaca mulatta</i>	93.01×10^6	101.90×10^6	12.0%	687.43×10^6	966.52×10^6	40.6%

*Deviation = $100 \times (\text{Observed} - \text{Expected}) / \text{Expected}$