

Supplementary Table 1. Measured densities and ratios of neuronal and other cells, estimated average mass of individual neuronal (m_N) and non-neuronal cells (m_O), and estimated neuronal fractional mass of the tissue (f_N) according to [73].

CEREBRAL CORTEX

Order	Species, latin name	Structure mass, g	N/mg	O/mg	O/N	Estimated m_N (ng)	Estimated m_O (ng)	Estimated f_N	Ref
Afrotheria	<i>Amblysomus hottentotus</i>	0.439	48,932	48,146	0.982	13.424	5.063	0.780	[60]
Afrotheria	<i>Elephantulus myurus</i>	0.471	54,644	55,693	1.032	12.016	4.797	0.741	[60]
	<i>Petrodomus</i>								
Afrotheria	<i>tetradactylus</i>	1.239	27,236	32,550	1.202	24.175	5.852	0.897	[60]
Afrotheria	<i>Dendrohyrax dorsalis</i>	7.56	13,098	24,291	1.855	50.416	6.521	0.995	[60]
Afrotheria	<i>Procavia capensis</i>	10.478	19,134	35,203	1.883	34.460	5.685	0.872	[60]
Afrotheria	<i>Loxodonta africana</i>	2847.954	1,964	52,721	26.844	338.790	4.896	0.755	[61]
Artiodactyla	<i>Sus scrofa domesticus</i>	42.202	7,276	77,016	10.585	90.971	4.255	0.660	[62]
Artiodactyla	<i>Antilocapra americana</i>	68.806	5,768	59,969	10.396	114.862	4.668	0.722	[62]
	<i>Damaliscus dorcas</i>								
Artiodactyla	<i>phillipsi</i>	111.31	5,127	60,760	11.851	129.283	4.645	0.718	[62]
Artiodactyla	<i>Tragelaphus streptoceros</i>	213.37	3,574	57,657	16.133	185.732	4.736	0.732	[62]
Artiodactyla	<i>Giraffa Camelopardalis</i>	398.808	4,339	68,990	15.900	152.864	4.432	0.686	[62]
Carnivora	<i>Mustela putorius furo</i>	3.123	12,473	84,552	6.779	52.953	4.111	0.639	[64]
Carnivora	<i>Mungos mungo</i>	9.29	12,462	37,305	2.994	53.000	5.564	0.854	[64]
Carnivora	<i>Felis catus</i>	24.176	10,334	45,380	4.391	63.962	5.175	0.797	[64]
Carnivora	<i>Procyon lotor</i>	24.491	18,510	72,136	3.897	35.626	4.360	0.676	[64]
Carnivora	<i>Canis familiaris</i>	65.491	8,061	52,167	6.472	82.079	4.915	0.758	[64]
Carnivora	<i>Hyaena hyaena</i>	67.45	7,343	44,148	6.012	90.138	5.228	0.805	[64]
Carnivora	<i>Panthera leo</i>	139.902	3,897	51,900	13.317	170.275	4.924	0.760	[64]
Carnivora	<i>Ursus arctos</i>	222	1,130	45,739	40.459	590.138	5.160	0.795	[64]
Insectivores	<i>Sorex fumeus</i>	0.084	116,727	111,754	0.958	5.608	3.708	0.578	[56]
Insectivores	<i>Blarina brevicauda</i>	0.197	60,214	80,729	1.357	10.900	4.182	0.649	[56]
Insectivores	<i>Condylura cristata</i>	0.42	40,777	76,995	1.966	16.121	4.256	0.660	[56]
Insectivores	<i>Parascalops breweri</i>	0.429	36,727	93,185	2.581	17.906	3.966	0.617	[56]
Insectivores	<i>Scalopus aquaticus</i>	0.476	60,461	80,745	1.383	10.855	4.181	0.649	[56]
Marsupials	<i>Marmosops incanus</i>	0.408	50,033	92,063	1.840	13.128	3.983	0.619	[63]
	<i>Metachirus</i>								
Marsupials	<i>nudicaudatus</i>	0.992	20,354	65,105	3.199	32.386	4.528	0.701	[63]
Marsupials	<i>Didelphis aurita</i>	2.136	19,897	56,638	2.847	33.134	4.768	0.736	[63]
Marsupials	<i>Sarcophilus harrisii</i>	5.228	13,706	70,062	5.112	48.171	4.407	0.683	[63]
Marsupials	<i>Macropus parma</i>	9.914	13,680	74,027	5.411	48.262	4.318	0.669	[63]
Marsupials	<i>Wallabia bicolor</i>	15.182	13,708	67,919	4.955	48.164	4.458	0.690	[63]

Marsupials	<i>Macropus rufogriseus</i>	16.102	15,947	72,486	4.545	41.376	4.352	0.675	[63]
Marsupials	<i>Dendrolagus goodfellowi</i>	19.57	13,972	64,321	4.603	47.250	4.548	0.704	[63]
Marsupials	<i>Macropus fuliginosus</i>	40.194	9,210	58,976	6.404	71.804	4.697	0.726	[63]
Primates	<i>Microcebus murinus</i>	0.908	24,571	77,808	3.167	26.808	4.239	0.658	[57]
Primates	<i>Callithrix jacchus</i>	5.561	44,280	71,800	1.615	14.841	4.367	0.677	[54]
Primates	<i>Otolemur garnettii</i>	6.29	37,820	63,610	1.778	17.387	4.567	0.707	[54]
Primates	<i>Aotus trivirgatus</i>	10.617	41,990	65,330	1.574	15.653	4.522	0.700	[54]
Primates	<i>Callimico goeldii</i>	12.984	27,505	55,093	2.003	23.937	4.817	0.744	[57]
Primates	<i>Saimiri sciureus</i>	20.652	64,930	77,840	1.201	10.105	4.238	0.658	[54]
Primates	<i>Macaca fascicularis</i>	36.226	22,110	76,156	3.444	29.804	4.273	0.663	[57]
Primates	<i>Cebus apella</i>	39.178	29,180	64,980	2.227	22.558	4.531	0.701	[54]
Primates	<i>Macaca radiata</i>	48.274	34,298	78,897	2.300	19.179	4.217	0.654	[57]
Primates	<i>Macaca mulatta</i>	69.832	24,470	75,400	3.082	26.919	4.289	0.665	[54]
Primates	<i>Papio anubis</i>								
Primates	<i>cynocephalus</i>	120.214	23,916	62,969	2.633	27.545	4.584	0.709	[57]
Primates	<i>Homo sapiens</i>	1232.93	13,520	49,230	3.723	48.836	5.021	0.774	[55]
Primates	<i>Pongo pygmaeus</i>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Primates	<i>Gorilla gorilla</i>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Rodents	<i>Mus musculus</i>	0.173	78,672	68,643	0.870	8.334	4.440	0.688	[53]
Rodents	<i>Mesocricetus auratus</i>	0.446	39,099	94,271	2.507	16.816	3.949	0.614	[53]
Rodents	<i>Rattus norvegicus</i>	0.769	41,092	60,426	1.497	15.997	4.655	0.720	[53]
Rodents	<i>Proechimys</i>								
Rodents	<i>cayennensis</i>	0.924	28,321	78,011	2.752	23.245	4.235	0.657	[59]
Rodents	<i>Cavia porcellus</i>	1.938	22,508	56,036	2.492	29.275	4.787	0.739	[53]
Rodents	<i>Cynomys sp.</i>	2.586	20,866	71,202	3.432	31.588	4.381	0.679	[59]
Rodents	<i>Sciurus carolinensis</i>	2.73	28,384	76,877	2.709	23.193	4.258	0.661	[59]
Rodents	<i>Oryctolagus cuniculus</i>	4.448	16,063	57,284	3.566	41.077	4.748	0.733	[59]
Rodents	<i>Dasyprocta primnolopha</i>	8.913	13,250	49,939	3.763	49.836	4.995	0.770	[53]
Rodents	<i>Hydrochoerus</i>								
Rodents	<i>hydrochoeris</i>	48.175	6,336	38,117	5.983	104.526	5.520	0.848	[53]
Rodents, fossorial	<i>Heterocephalus glaber</i>	0.184	33,374	45,894	1.365	19.713	5.154	0.794	[59]
Scandentia	<i>Tupaia belangeri</i>	1.455	42,900	58,900	1.417	15.320	4.699	0.726	[54]

CEREBELLUM

Order	Species, latin name	Structure mass, g	N/mg	O/mg	O/N	Estimated mN (ng)	Estimated mO (ng)	Estimated fN	Source
Afrotheria	<i>Amblysomus hottentotus</i>	0.084	409,687	96,849	0.236	1.590	3.909	0.608	[60]

Afrotheria	<i>Elephantulus myurus</i>	0.168	531,494	139,028	0.261	1.224	3.420	0.535	[60]
Afrotheria	<i>Petrodomus tetradactylus</i>	0.304	362,537	110,153	0.299	1.797	3.728	0.581	[60]
Afrotheria	<i>Dendrohyrax dorsalis</i>	1.918	188,180	40,444	0.215	3.472	5.400	0.830	[60]
Afrotheria	<i>Procavia capensis</i>	2.058	242,415	46,365	0.182	2.692	5.134	0.791	[60]
Afrotheria	<i>Loxodonta africana</i>	1171.628	213,983	32,866	0.154	3.052	5.831	0.894	[61]
Artiodactyla	<i>Sus scrofa domesticus</i>	8.128	228,632	42,902	0.188	2.855	5.284	0.813	[62]
Artiodactyla	<i>Antilocapra americana</i>	11.458	196,999	40,779	0.207	3.316	5.384	0.828	[62]
Artiodactyla	<i>phillipsi</i>	13.402	179,206	33,123	0.184	3.647	5.814	0.891	[62]
Artiodactyla	<i>Tragelaphus streptoceros</i>	31.776	127,218	39,845	0.313	5.144	5.430	0.835	[62]
Artiodactyla	<i>Giraffa camelopardalis</i>	67.73	131,080	81,505	0.622	4.992	4.167	0.647	[62]
Carnivora	<i>Mustela putorius furo</i>	0.92	381,810	86,516	0.227	1.706	4.076	0.633	[64]
Carnivora	<i>Mungos mungo</i>	1.548	203,966	99,652	0.489	3.202	3.868	0.602	[64]
Carnivora	<i>Procyon lotor</i>	3.338	493,162	72,296	0.147	1.320	4.356	0.675	[64]
Carnivora	<i>Felis catus</i>	5.11	184,521	63,816	0.346	3.541	4.562	0.706	[64]
Carnivora	<i>Canis familiaris</i>	7.512	223,194	112,976	0.506	2.925	3.693	0.576	[64]
Carnivora	<i>Hyaena hyaena</i>	14.032	237,588	42,353	0.178	2.747	5.309	0.817	[64]
Carnivora	<i>Panthera leo</i>	24.882	162,758	122,337	0.752	4.017	3.586	0.560	[64]
Carnivora	<i>Ursus arctos</i>	45.106	205,145	50,919	0.248	3.184	4.959	0.765	[64]
Insectivores	<i>Blarina brevicauda</i>	0.037	919,942	118,736	0.132	0.706	3.625	0.566	[56]
Insectivores	<i>Parascalops breweri</i>	0.102	997,370	68,795	0.070	0.651	4.437	0.687	[56]
Insectivores	<i>Condylura cristata</i>	0.138	776,460	139,912	0.184	0.837	3.412	0.534	[56]
Insectivores	<i>Scalopus aquaticus</i>	0.153	1,037,390	114,660	0.110	0.626	3.673	0.573	[56]
Marsupials	<i>Marmosops incanus</i>	0.158	521,513	152,538	0.292	1.248	3.305	0.518	[63]
Marsupials	<i>Metachirus nudicaudatus</i>	0.342	392,196	94,098	0.240	1.661	3.951	0.615	[63]
Marsupials	<i>Didelphis aurita</i>	0.778	429,647	52,398	0.122	1.516	4.907	0.757	[63]
Marsupials	<i>Sarcophilus harrisii</i>	1.434	419,158	93,699	0.224	1.554	3.957	0.616	[63]
Marsupials	<i>Macropus parma</i>	1.69	330,225	96,809	0.293	1.974	3.910	0.608	[63]
Marsupials	<i>Macropus rufogriseus</i>	3.572	286,273	127,955	0.447	2.278	3.527	0.551	[63]
Marsupials	<i>Dendrolagus goodfellowi</i>	4.236	292,025	72,824	0.249	2.233	4.344	0.673	[63]
Marsupials	<i>Wallabia bicolor</i>	4.42	270,575	75,296	0.278	2.411	4.291	0.665	[63]
Marsupials	<i>Macropus rufus</i>	4.786	320,282	92,719	0.289	2.036	3.973	0.618	[63]
Marsupials	<i>Macropus fuliginosus</i>	7.358	270,449	99,472	0.368	2.412	3.871	0.603	[63]
Primates	<i>Microcebus murinus</i>	0.391	566,205	44,588	0.079	1.149	5.209	0.802	[57]
Primates	<i>Callithrix jacchus</i>	0.73	494,970	68,170	0.138	1.315	4.452	0.689	[54]
Primates	<i>Otolemur garnettii</i>	1.196	623,080	54,460	0.088	1.044	4.837	0.747	[54]

Primates	<i>Aotus trivirgatus</i>	1.732	605,080	82,890	0.140	1.075	4.141	0.643	[54]
Primates	<i>Saimiri sciureus</i>	4.3	424,000	30,940	0.073	1.536	5.963	0.913	[54]
Primates	<i>Cebus apella</i>	4.6	540,310	53,440	0.099	1.204	4.871	0.752	[54]
Primates	<i>Macaca fascicularis</i>	5.642	455,973	23,999	0.053	1.428	6.551	1.000	[57]
Primates	<i>Macaca radiata</i>	5.748	354,655	78,908	0.222	1.838	4.217	0.654	[57]
Primates	<i>Macaca mulatta</i>	7.694	590,800	121,010	0.205	1.101	3.600	0.562	[54]
	<i>Papio anubis</i>								
Primates	<i>cynocephalus</i>	13.745	567,109	38,267	0.067	1.147	5.512	0.847	[57]
Primates	<i>Pongo pygmaeus</i>	35.057	750,143	62,750	0.084	0.866	4.590	0.710	[57]
Primates	<i>Gorilla gorilla</i>	37.559	702,875	77,210	0.110	0.925	4.251	0.660	[57]
Primates	<i>Homo sapiens</i>	154.02	471,660	101,020	0.232	1.380	3.849	0.599	[55]
Primates	<i>Callimico goeldii</i>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Rodents	<i>Mus musculus</i>	0.056	746,691	123,493	0.165	0.870	3.573	0.558	[53]
Rodents	<i>Mesocricetus auratus</i>	0.145	424,002	51,332	0.121	1.536	4.944	0.763	[53]
Rodents	<i>Rattus norvegicus</i>	0.272	522,688	108,555	0.209	1.245	3.748	0.584	[53]
	<i>Proechimys</i>								
Rodents	<i>cayennensis</i>	0.33	494,338	110,122	0.224	1.317	3.728	0.581	[59]
Rodents	<i>Cavia porcellus</i>	0.5	339,755	72,824	0.216	1.918	4.344	0.673	[53]
Rodents	<i>Cynomys sp.</i>	0.789	440,658	84,802	0.192	1.478	4.106	0.638	[59]
Rodents	<i>Sciurus carolinensis</i>	0.874	392,363	127,682	0.336	1.660	3.529	0.551	[59]
Rodents	<i>Oryctolagus cuniculus</i>	1.412	280,929	88,229	1.222	2.322	4.047	0.629	[59]
Rodents	<i>Dasyprocta primnolopha</i>	2.742	253,208	57,945	0.234	2.577	4.728	0.730	[53]
	<i>Hydrochoerus</i>								
Rodents	<i>hydrochoeris</i>	6.632	177,982	86,574	0.493	3.672	4.075	0.633	[53]
Rodents, fossorial	<i>Heterocephalus glaber</i>	0.048	327,280	115,748	0.356	1.992	3.660	0.571	[59]
Scandentia	<i>Tupaia belangeri</i>	0.326	571,460	61,600	0.108	1.138	4.622	0.715	[54]

REST OF BRAIN

Order	Species, latin name	Structure mass, g	N/mg	O/mg	O/N	Estimated mN (ng)	Estimated mO (ng)	Estimated fN	Source
Afrotheria	<i>Amblysomus hottentotus</i>	0.289	31,616	58,880	1.839	20.813	4.700	0.726	[60]
Afrotheria	<i>Elephantulus myurus</i>	0.401	34,520	70,967	2.048	19.056	4.386	0.680	[60]
	<i>Petrodomus</i>								
Afrotheria	<i>tetradactylus</i>	0.894	13,696	31,716	2.300	48.208	5.909	0.905	[60]
Afrotheria	<i>Dendrohyrax dorsalis</i>	3.328	13,423	45,813	3.413	49.191	5.157	0.794	[60]
Afrotheria	<i>Procavia capensis</i>	4.317	16,436	38,353	2.351	40.141	5.507	0.846	[60]
Afrotheria	<i>Loxodonta africana</i>	564.674	1,314	48,531	36.948	507.385	5.048	0.778	[61]
Artiodactyla	<i>Sus scrofa domesticus</i>	13.85	4,238	79,192	18.682	156.522	4.212	0.654	[62]
Artiodactyla	<i>Antilocapra americana</i>	25.81	2,731	51,115	18.710	243.320	4.952	0.764	[62]
	<i>Damaliscus dorcus</i>								
Artiodactyla	<i>phillipsi</i>	30.006	2,880	71,188	24.718	230.682	4.381	0.679	[62]
Artiodactyla	<i>Tragelaphus streptoceros</i>	61.716	1,727	55,233	31.980	385.481	4.812	0.743	[62]
Artiodactyla	<i>Giraffa camelopardalis</i>	70.68	2,019	69,028	34.190	329.525	4.431	0.686	[62]
Carnivora	<i>Mustela putorius furo</i>	1.386	10,253	93,313	9.101	64.469	3.963	0.617	[64]
Carnivora	<i>Mungos mungo</i>	3.454	6,518	43,875	6.731	101.595	5.240	0.807	[64]
Carnivora	<i>Felis catus</i>	5.572	4,033	54,844	13.598	164.511	4.825	0.745	[64]
Carnivora	<i>Procyon lotor</i>	6.357	7,640	61,664	8.071	86.620	4.620	0.714	[64]
Carnivora	<i>Canis familiaris</i>	13.459	3,577	68,957	19.275	185.572	4.433	0.687	[64]
Carnivora	<i>Hyaena hyaena</i>	17.732	3,129	52,410	16.749	212.255	4.907	0.757	[64]
Carnivora	<i>Panthera leo</i>	34.162	2,109	61,292	29.063	315.407	4.630	0.716	[64]
Carnivora	<i>Ursus arctos</i>	47.898	1,699	55,586	32.714	391.860	4.801	0.741	[64]
Insectivores	<i>Blarina brevicauda</i>	0.113	55,924	117,736	2.102	11.740	3.637	0.568	[56]
Insectivores	<i>Parascalops breweri</i>	0.228	31,276	137,960	4.401	21.040	3.430	0.536	[56]
Insectivores	<i>Condylura cristata</i>	0.244	33,475	128,990	3.866	19.653	3.516	0.549	[56]
Insectivores	<i>Scalopus aquaticus</i>	0.37	44,620	123,600	2.759	14.727	3.572	0.558	[56]
Marsupials	<i>Marmosops incanus</i>	0.344	26,857	77,285	2.878	24.517	4.250	0.659	[63]
	<i>Metachirus</i>								
Marsupials	<i>nudicaudatus</i>	0.674	16,725	81,579	4.878	39.445	4.166	0.647	[63]
Marsupials	<i>Didelphis aurita</i>	1.378	11,417	67,057	5.873	57.871	4.479	0.693	[63]
Marsupials	<i>Sarcophilus harrisii</i>	3.14	6,677	81,461	12.200	99.165	4.168	0.647	[63]
Marsupials	<i>Macropus parma</i>	4.11	4,238	81,467	19.221	156.505	4.168	0.647	[63]
Marsupials	<i>Macropus rufogriseus</i>	7.32	5,803	72,314	12.462	114.170	4.356	0.675	[63]
Marsupials	<i>Dendrolagus goodfellowi</i>	7.742	4,890	62,031	12.685	135.574	4.610	0.713	[63]
Marsupials	<i>Wallabia bicolor</i>	10.41	3,061	63,005	20.583	216.985	4.583	0.709	[63]
Marsupials	<i>Macropus fuliginosus</i>	15.172	6,442	75,658	11.744	102.795	4.283	0.664	[63]
Primates	<i>Microcebus murinus</i>	0.5	22,029	101,731	4.618	29.914	3.839	0.598	[57]

Primates	<i>Callithrix jacchus</i>	1.489	19,650	98,370	4.909	33.551	3.887	0.605	[54]
Primates	<i>Callimico goeldii</i>	2.086	25,844	93,254	3.608	25.482	3.964	0.617	[57]
Primates	<i>Otolemur garnettii</i>	2.131	9,730	69,040	7.088	67.948	4.431	0.686	[54]
Primates	<i>Aotus trivirgatus</i>	3.104	15,900	100,990	6.353	41.499	3.849	0.599	[54]
Primates	<i>Macaca fascicularis</i>	4.294	15,242	60,589	3.975	43.298	4.650	0.719	[57]
Primates	<i>Saimiri sciureus</i>	5.004	13,090	60,470	4.618	50.447	4.654	0.719	[54]
Primates	<i>Macaca radiata</i>	7.448	8,238	82,793	10.050	80.308	4.143	0.643	[57]
Primates	<i>Cebus apella</i>	8.43	7,340	60,040	8.183	90.175	4.666	0.721	[54]
Primates	<i>Macaca mulatta</i>	9.204	12,410	98,420	7.929	53.223	3.886	0.605	[54]
Primates	<i>Papio anubis</i>								
Primates	<i>cynocephalus</i>	17.235	16,139	62,656	3.882	40.882	4.593	0.710	[57]
Primates	<i>Homo sapiens</i>	117.66	6,560	69,850	11.203	100.942	4.412	0.683	[55]
Primates	<i>Pongo pygmaeus</i>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Primates	<i>Gorilla gorilla</i>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Rodents	<i>Mus musculus</i>	0.172	64,301	79,839	1.242	10.205	4.199	0.652	[53]
Rodents	<i>Mesocricetus auratus</i>	0.375	15,611	55,804	3.556	42.271	4.794	0.740	[53]
Rodents	<i>Rattus norvegicus</i>	0.683	27,813	71,760	2.587	23.671	4.368	0.677	[53]
Rodents	<i>Proechimys</i>								
Rodents	<i>cayennensis</i>	0.824	16,381	88,667	5.462	40.276	4.039	0.628	[59]
Rodents	<i>Cavia porcellus</i>	1.218	18,990	69,528	4.035	34.722	4.419	0.685	[53]
Rodents	<i>Sciurus carolinensis</i>	1.943	17,616	108,482	7.246	37.442	3.749	0.584	[59]
Rodents	<i>Cynomys sp.</i>	1.945	17,590	86,542	4.923	37.497	4.076	0.633	[59]
Rodents	<i>Oryctolagus cuniculus</i>	3.272	7,972	76,838	9.638	82.999	4.259	0.661	[59]
Rodents	<i>Dasyprocta primnolopha</i>	5.972	6,830	56,408	8.259	96.936	4.775	0.738	[53]
Rodents	<i>Hydrochoerus</i>								
Rodents	<i>hydrochoeris</i>	19.927	5,434	39,234	7.132	121.951	5.461	0.839	[53]
Rodents, fossorial	<i>Heterocephalus glaber</i>	0.16	31,674	64,145	2.125	20.775	4.553	0.705	[59]
Scandentia	<i>Tupaia belangeri</i>	0.919	25,900	100,320	3.873	25.427	3.859	0.601	[54]