

Table 1. Description of all datasets provided in the first release to the *Digital Brain Bank*.

All Structural MRI datasets in the first release were acquired using a balanced SSFP (bSSFP) or T2-weighted sequence, which yields strong gray-white matter contrast in formalin-fixed post-mortem tissue. Diffusion MRI datasets were acquired using a combination of diffusion-weighted steady-state free precession (DW-SSFP) and diffusion-weighted spin-echo (DW-SE) sequences. Full details of the motivation behind the choice of sequences and available contrasts are described in the Discussion. [†]T2* and magnetic susceptibility maps are currently available in 9 out of 12 ALS brains and all control brains. The remaining datasets were either lost during scanner export, or are of insufficient data quality for public release.

Category	Name	Contents: MRI	Resolution (MRI)	Contents: Microscopy	Relevant publications
Digital Anatomist	Human High-Resolution Diffusion MRI-PLI	Whole-brain diffusion MRI, structural MRI, quantitative T1 and T2 maps: – Control human brain: 1×	Diffusion MRI: (500 μm , 1 and 2 mm iso.) Structural MRI: 312.5×312.5×500 μm^3 T1 map: (0.75×0.75×1.6 mm ³) T2 map: (0.75×0.75×1.6 mm ³)	Polarised light imaging (4 μm in-plane) in the anterior commissure, corpus callosum, pons, thalamus, and visual cortex (same brain)	Dataset described in this publication (Methodology in Appendix 1), Diffusion MRI processing described in Tendler et al., 2020b , T2 mapping described in Tendler et al., 2021
Digital Anatomist	Human Callosum MRI-PLI-Histology	Corpus callosum diffusion MRI: – Excised control human corpus callosum samples: 3×	Diffusion MRI: (400 μm iso.)	Polarised light imaging (4 μm in-plane), bright-field microscopy images of immunohistochemistry stains (0.25 μm in-plane) for PLP (myelin) and GFAP (astrocyte) (same human corpus callosum samples)	Mollink et al., 2017
		Whole-brain diffusion MRI and structural MRI (available in brains marked with a *): <ul style="list-style-type: none"> • Bushbaby (<i>Galago senegalensis</i>): 1× • Capuchin monkey (<i>Sepajus apella</i>): 1× • Chimpanzee* (<i>Pan troglodytes</i>): 2× • Colobus monkey (<i>Colobus guereza</i>): 1× • Cotton-Top tamarin (<i>Saguinus oedipus</i>): 1× • Golden Lion tamarin (<i>Leontopithecus rosalia</i>): 1× • Hamadryas baboon* (<i>Papio hamadryas</i>): 1× • Macaque monkey (<i>Macaca mulatta</i>): 3× • Mangabey (<i>Lophocebus albigena</i>): 1× • Night monkey (<i>Aotus lemurinus</i>): 1× • Ring-tailed lemur (<i>Lemur catta</i>): 3× • Saki monkey (<i>Pithecia pithecia</i>): 1× • Western Lowland gorilla* (<i>Gorilla gorilla</i>): 1× • Woolly monkey (<i>Lagothrix lagotricha</i>): 1× 	Diffusion MRI: 300 μm iso.: Bushbaby, Cotton-Top tamarin & Golden Lion Tamarin 400 μm iso: Night monkey 500 μm iso: Ring-tailed lemur and Saki monkey 600 μm iso: Capuchin monkey, Chimpanzee, Colobus monkey, Hamadryas baboon, Macaque monkey, Mangabey, Western Lowland Gorilla and Woolly Monkey Structural MRI 200 μm iso: Western Lowland Gorilla 220 μm iso: Hamadryas Baboon 0.22×0.22×0.19 mm ³ : 1× Chimpanzee 0.375×0.375×0.40 mm ³ : 1× Chimpanzee	None	1× Western Lowland gorilla and 1× Chimpanzee described in Roumazeilles et al., 2020 , 3× Macaque monkey and 3× Ring-Tailed Lemur described in Roumazeilles et al., 2021 . Hamadryas baboon, Cotton-Top tamarin and Golden Lion tamarin datasets described in this publication (Methodology in Appendix 1). All other datasets described in Bryant et al., 2021
Digital Brain Zoo	Marsupials	Whole-brain diffusion MRI and structural MRI: <ul style="list-style-type: none"> • Tasmanian devil (<i>Sarcophilus harrisi</i>): 2× • Thylacine (<i>Thylacinus cynocephalus</i>): 2× 	Diffusion MRI: 1 mm iso: 1× Tasmanian devil 1.5 mm iso: 1× Tasmanian devil 1.1 mm iso: 1× Thylacine 1.0×1.1×0.8 mm ³ : 1× Thylacine Structural MRI 330 μm iso: 1× Tasmanian devil and 1× Thylacine 330×330×300 μm^3 : 1× Tasmanian devil 500 μm iso: 1× Thylacine	None	Berns and Ashwell, 2017
Digital Brain Zoo	Cetaceans	Whole-brain diffusion MRI and structural MRI: <ul style="list-style-type: none"> • Common dolphin (<i>Delphinus delphis</i>): 1× • Pantropical dolphin (<i>Stenella attenuata</i>): 1× 	Diffusion MRI: (1.3 mm iso.) Structural MRI: (640×640×500 μm^3)	None	Berns et al., 2015
Digital Brain Zoo	Carnivora	Whole-brain diffusion MRI and structural MRI: – European wolf (<i>Canis lupus</i>): 1×	Diffusion MRI: (600 μm iso.) Structural MRI: (220 μm iso.)	None	Dataset described in this publication (Methodology in Appendix 1)

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