

Supplementary Table 1 | Distribution of tissue types and images used for initial CNN training. Images numbers represent 1024 x 1024 pixel images.

Class	Unique Cases	Unique Images (Total)	Unique images selected for training
Normal Tissue Types			
White Matter	15	4,933	3,455
Gray Matter	17	7,431	6,244
Cerebellum	4	7,169	2,554
Dura	6	910	638
Tumor Types			
Glioma	41 - 20 Glioblastoma, IDH wildtype, WHO grade IV - 11 Astrocytomas, IDH mutant, WHO grade II-IV - 10 Oligodendroglioma, IDH mutant, 1p19q co-deleted	18,948 7,169 6,391 5,388	7,000
Meningioma	28 - 9 Meningothelial, fibrous, transitional Meningioma subtypes, WHO grade I - 9 Psammomatous Meningioma, WHO grade I - 7 Microcystic/Angiomatous, WHO grade I - 3 Secretory Meningioma, WHO grade I	15,504 7,380 1,529 4,855 1,740	7,000
Metastasis	11 Subtype: Adenocarcinoma (breast, lung, esophagus, colon)	4,043	2,831
Schwannoma	6 (conventional)	3,760	2,632
Lymphoma	5 (Diffuse Large B-Cell Lymphoma)	1,939	1,359
Other tissue types			
Blood	23	5,102	3,572
Surgical Material	7	368	315
Necrosis	13	4,164	2,749
Blank	10	10,232	7,182
Total: 13 Class	122 (unique cases)	84,503	47,531