

Online Table 1. Variation in segmentation volumes and variability for BraTumIA 2.0 across 25 repetitions on identical datasets

Segmented region	Mean Segmentation volumes, mL	Mean Standard Deviation in segmentation volumes, mL (range)	Mean Coefficient of Variation, % (range)	Mean Generalized Conformity Index (range)
Enhancing	24.1	0.5 (0.07 – 1.3)	3.7 (0.7 – 19.3)	0.84 (0.55 – 0.92)
Edema	92.3	1.7 (0.4 – 4.8)	2.2 (0.5 – 8.0)	0.85 (0.74 – 0.92)
Non-enhancing	2.7	0.3 (0.007 – 1.2)	19.5 (4.6 – 67.1)	0.47 (0.19 – 0.73)
Necrotic	6.9	0.3 (0.07 – 1.0)	14.4 (1.0 – 67.3)	0.66 (0.23 – 0.90)
Total Tumor-related Abnormality	126.1	1.8 (0.8 – 5.0)	1.7 (0.5 – 7.5)	0.89 (0.78 – 0.94)
Total Non-enhancing Tumor-related Abnormality	101.9	1.7 (0.7 – 4.9)	2.0 (0.5 – 7.7)	0.86 (0.74 – 0.92)
Non-enhancing Non-necrotic Tumor-related Abnormality	95.1	1.7 (0.6 – 4.8)	2.1 (0.5 – 7.6)	0.86 (0.74 – 0.92)
White Matter	547.6	4.7 (1.1 – 29.4)	0.9 (0.2 – 6.1)	0.93 (0.87 – 0.97)
Gray Matter	605.8	6.7 (1.5 – 25.3)	1.1 (0.3 – 4.9)	0.89 (0.83 – 0.95)

Online Table 2. Mean Volumes, within-subject standard deviations and total standard deviation for Automatically Segmented Volumes (in mL).

Segmented region	Mean Volumes (range)		Within-subject Standard Deviation		Total Standard Deviation	
	BraTumIA Version 1.2	2.0	1.2	2.0	1.2	2.0
Enhancing	25.2 (0.2 - 66)	23.9 (0.4 - 64)	2.5	1.9	17	17
Edema	95.6 (46 - 180)	92.2 (43 - 176)	8.7	11	36	35
Non-enhancing	3.0 (0.01 - 12)	2.7 (0 - 10.0)	0.77	0.71	3	2.4
Necrotic	5.8 (0.1 – 55)	6.8 (0.2– 55)	1.1	0.74	12	12
Total Tumor-related Abnormality	130 (53 – 252)	126 (50 – 241)	9	11	53	49
Total Non-enhancing Tumor- related Abnormality	104 (46 – 189)	102 (44 – 182)	8.5	11	40	37
Non-enhancing Non-necrotic Tumor-related Abnormality	98.7 (46 – 189)	94.8 (44 -179)	8.7	11	38	36
White Matter	544 (446 – 644)	547 (448 – 649)	15	17	50	53
Gray Matter	596 (497 – 685)	610 (521 – 711)	17	16	54	55

Online Table 3. Intraclass Correlation Coefficient and Concordance Correlation Coefficient for Automatically Segmented Volumes.

Segmented region	ICC (95% CI) ^a		CCC (95% CI) ^b	
	1.2	2.0	1.2	2.0
BraTumIA Version	1.2	2.0	1.2	2.0
Enhancing	0.98 (0.95 - 0.99)	0.99 (0.97 - 1)	0.97 (0.94 - 0.99)	0.98 (0.96 - 0.99)
Edema	0.94 (0.87 - 0.98)	0.91 (0.79 - 0.96)	0.94 (0.87 - 0.98)	0.91 (0.79 - 0.96)
Non-enhancing	0.94 (0.85 - 0.97)	0.92 (0.80 - 0.97)	0.94 (0.85 - 0.97)	0.91 (0.80 - 0.96)
Necrotic	0.99 (0.98 - 1)	1 (0.99 - 1)	0.99 (0.98 - 1)	1 (0.99 - 1)
Total Tumor-related Abnormality	0.97 (0.93 - 0.99)	0.95 (0.88 - 0.98)	0.97 (0.94 - 0.99)	0.95 (0.89 - 0.98)
Total Non-enhancing Tumor-related Abnormality	0.96 (0.89 - 0.98)	0.92 (0.81 - 0.97)	0.96 (0.90 - 0.98)	0.92 (0.82 - 0.97)
Non-enhancing Non-necrotic Tumor-related Abnormality	0.95 (0.88 - 0.98)	0.91 (0.80 - 0.97)	0.95 (0.89 - 0.98)	0.91 (0.80 - 0.96)
White Matter	0.92 (0.81 - 0.97)	0.90 (0.77 - 0.96)	0.92 (0.81 - 0.97)	0.90 (0.77 - 0.96)
Gray Matter	0.91 (0.79 - 0.96)	0.92 (0.80 - 0.97)	0.91 (0.78 - 0.96)	0.92 (0.81 - 0.97)

Abbreviations: CCC = Concordance Correlation Coefficient; CI = Confidence Intervals; ICC = Intraclass
Correlation Coefficient

^a CIs calculated using F-distribution

^b CIs calculated using Fisher's Z-transformation