

Table S1 Scanning sequence parameters

	T1-weighted sagittal FFE	T2-weighted axial TSE	T2-weighted sagittal FLAIR	Enhanced T1- weighted sagittal FFE	DTI	T1rho
Acquisition type	3D	2D	3D	3D	3D	3D
Repetition time, TR (ms)	7.6	2622	4800	26.4	9060	2500
Echo time, TE (ms)	3.5	80	340	2.3	90	25
Inversion time, TI (ms)	-	-	1650	-	-	1650
Fat suppression	No	No	Yes	Yes	No	No
Number of signal averages (NSA)	1	2	2	1	1	1
Field of view (cm)	250×250	230×180	250×250	230×230	224×224	258×258
Matrix	228×208	512×297	224×223	256×256	112×112	144×144
Slice thickness (mm)	1.1	2.5	1.1	1.8	2	1.8
Number of slices	311	50	326	178	80	80–90
Sensitivity-encoding factor	-	-	-	-	2.5 along the anterior- posterior and 1 along the feet-head direction	2 along the anterior- posterior and 1 along the feet-head direction
Frequency of spin lock, FSL (HZ)	-	-	-	-	-	300
Time of spin-lock, TSL (ms)	-	-	-	-	-	0, 10, 25, 45, 75
b value (s/mm ²)	-	-	-	-	0, 1000	-

FFE, fast field echo; FLAIR, fluid-attenuated inversion recovery; TSE, turbo spin echo.

Table S2 Correlation between T1rho values and DTI metrics with EDSS scores and disease duration

T1rho	EDSS		Duration time	
	Correlation coefficient	P value	Correlation coefficient	P value
Lesion	0.04	0.56	0.10	0.15
Perilesional layer 1	0.02	0.78	0.10	0.14
Perilesional layer 2	0.01	0.91	0.07	0.33
Perilesional layer 3	-0.01	0.87	0.05	0.50
Perilesional layer 4	-0.07	0.32	0.04	0.56
Perilesional layer 5	-0.08	0.24	0.01	0.86

EDSS, expanded disability status scale.