

Supplemental Online Content

Plavina T, Singh CM, Sangurdekar D, et al. Association of serum neurofilament light levels with long-term brain atrophy in patients with a first multiple sclerosis episode. *JAMA Netw Open*. 2020;3(11):e2016278. doi:10.1001/jamanetworkopen.2020.16278

eFigure 1. Association of Baseline Serum Neurofilament Light Concentrations With Baseline Magnetic Resonance Imaging Measurements of Disease Burden

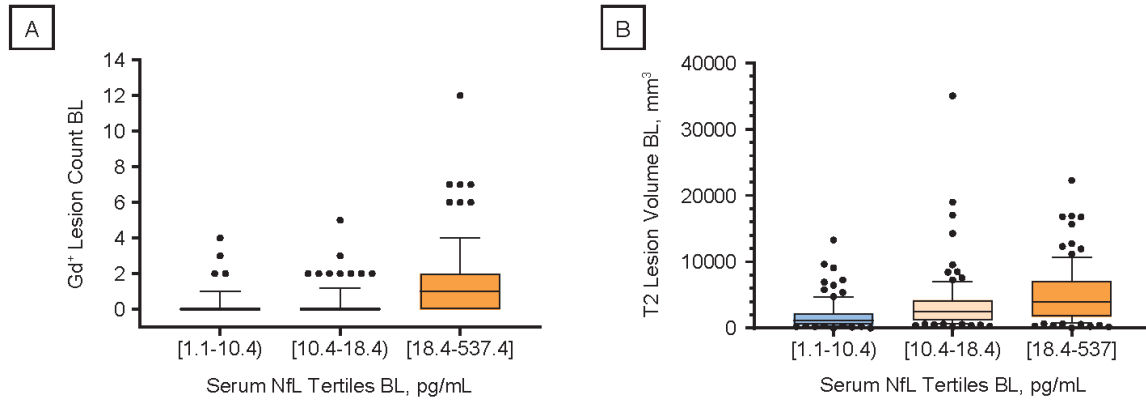
eFigure 2. Association of Baseline Serum Neurofilament Light Concentration With Brain Atrophy

eTable. Data Points Available for the CHAMPS and CHAMPIONS Studies

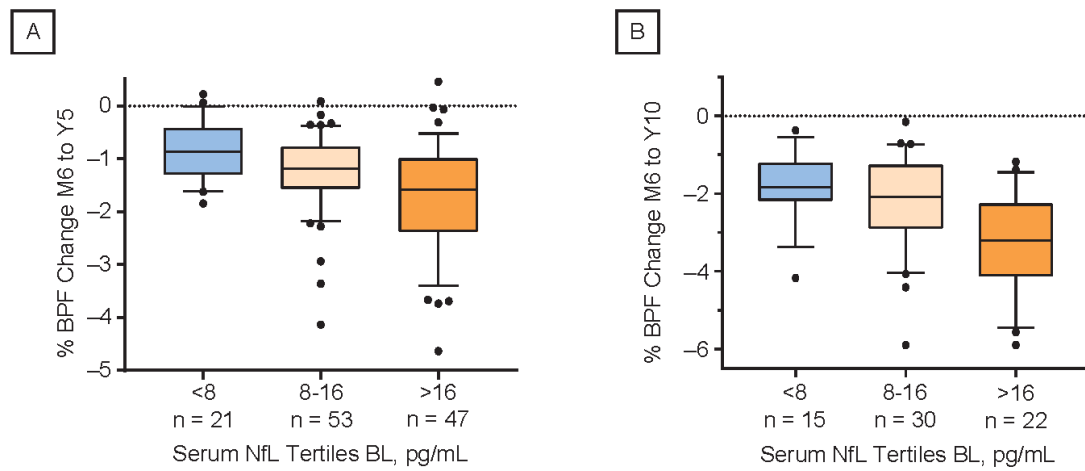
This supplemental material has been provided by the authors to give readers additional information about their work.

eFigure 1. Association of Baseline Serum Neurofilament Light Concentrations With Baseline Magnetic Resonance Imaging Measurements of Disease Burden

A. Associations derived for BL sNfL concentration (stratified by tertiles) and number of gadolinium-enhancing (Gd⁺) lesions. B, Associations derived for BL sNfL concentration (stratified by tertiles) and T2 lesion volumes. [] in range indicates number before or after bracket is included; () in range indicates the number before or after the parentheses is not included in the range.



eFigure 2. Association of Baseline Serum Neurofilament Light Concentration With Brain Atrophy



Concentration is stratified by the proposed sNfL thresholds²⁷ (8 pg/mL and 16 pg/mL). A, Association between BL sNfL concentration and brain atrophy (percent BPF) from Month (M) 6 to 5 years. B, Association between BL sNfL concentration and brain atrophy (percent BPF) from M6 to 10 years.

eTable. Data Points Available for the CHAMPS and CHAMPIONS Studies

Clinical and MRI Measurements	CHAMPS (IFN β -1a and Placebo)							CHAMPIONS	CHAMPIONS Extension		
	BL	Month 6	Month 12	Month 18	Month 24	Month 30	Month 36	Year 5	Year 6	Year 9	Year 10
EDSS score	383	328	283	255	197	116	53	195	172	106	127
BPF	353	297	267	243				182			112
T2 volume	366	298	259	230				181			110
Number of T2 lesions	377	317	275	251				189			110
Gd ⁺ volume	361	316	270	248				185			108
No. of Gd ⁺ lesions	362	317	271	248				185			108
sNfL	308				139						

Abbreviations: BL, baseline; BPF, brain parenchymal fraction; CHAMPS, Controlled High-Risk Avonex Multiple Sclerosis Prevention Study; EDSS, Expanded

Disability Status Scale; Gd⁺, gadolinium enhancing; MRI, magnetic resonance imaging; sNfL, serum neurofilament light chain.

^a Numbers indicate the number of available samples at each time point. Absence of a number represents no data available.