Long-term CSF responses in adult patients with spinal muscular atrophy type 2 or 3 on treatment with nusinersen

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Supplementary tables and figures

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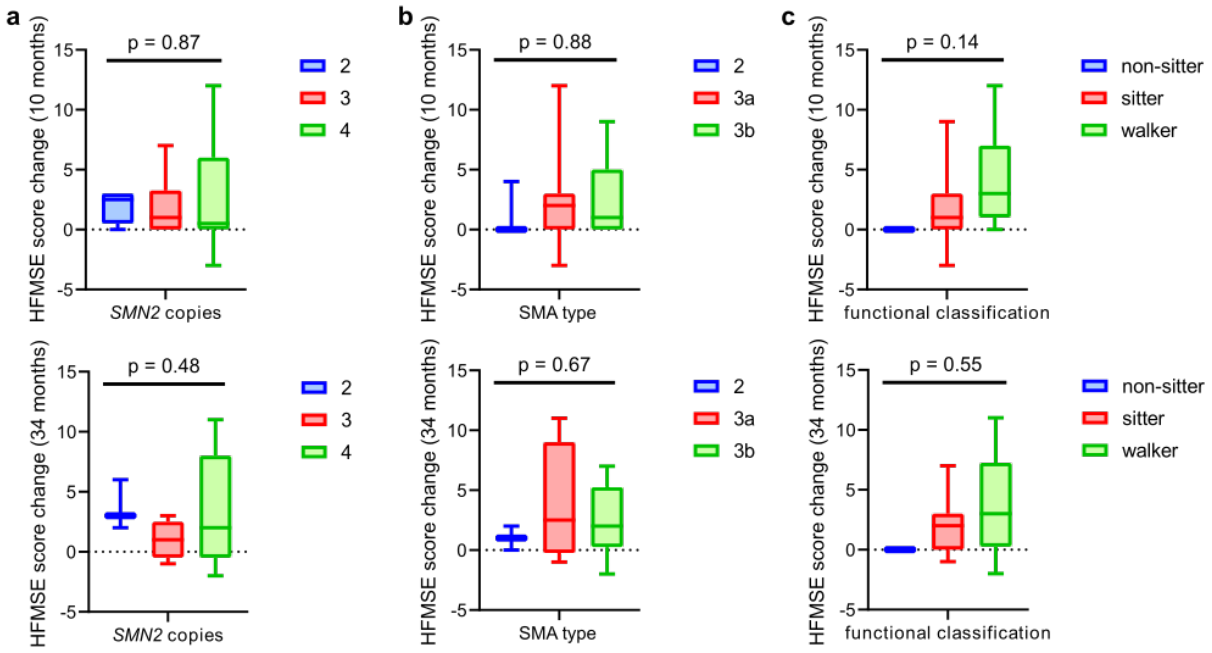
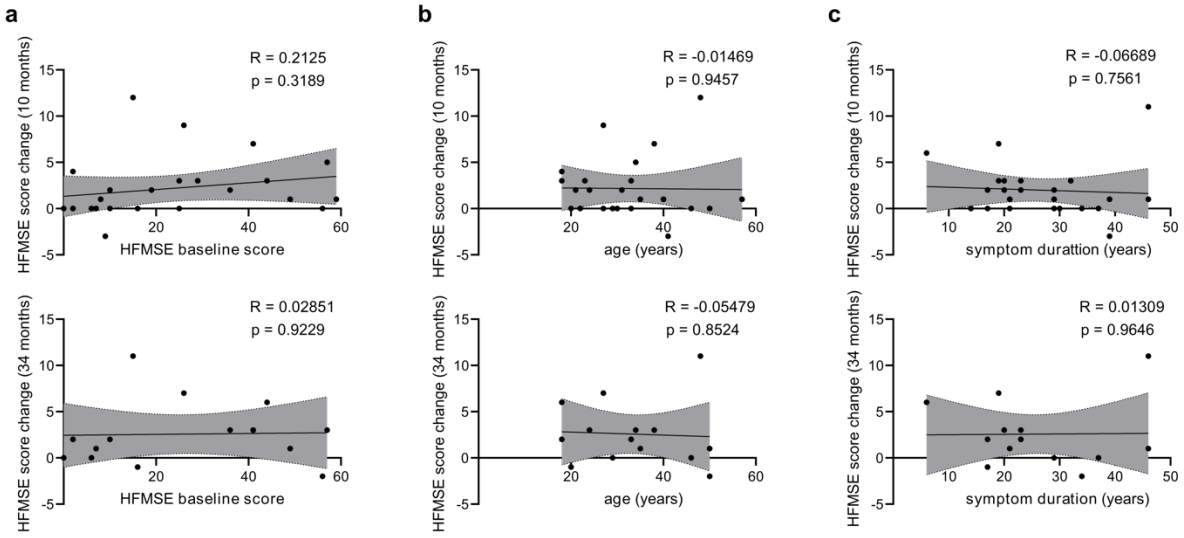
Supplementary table 1 Individual patient characteristics

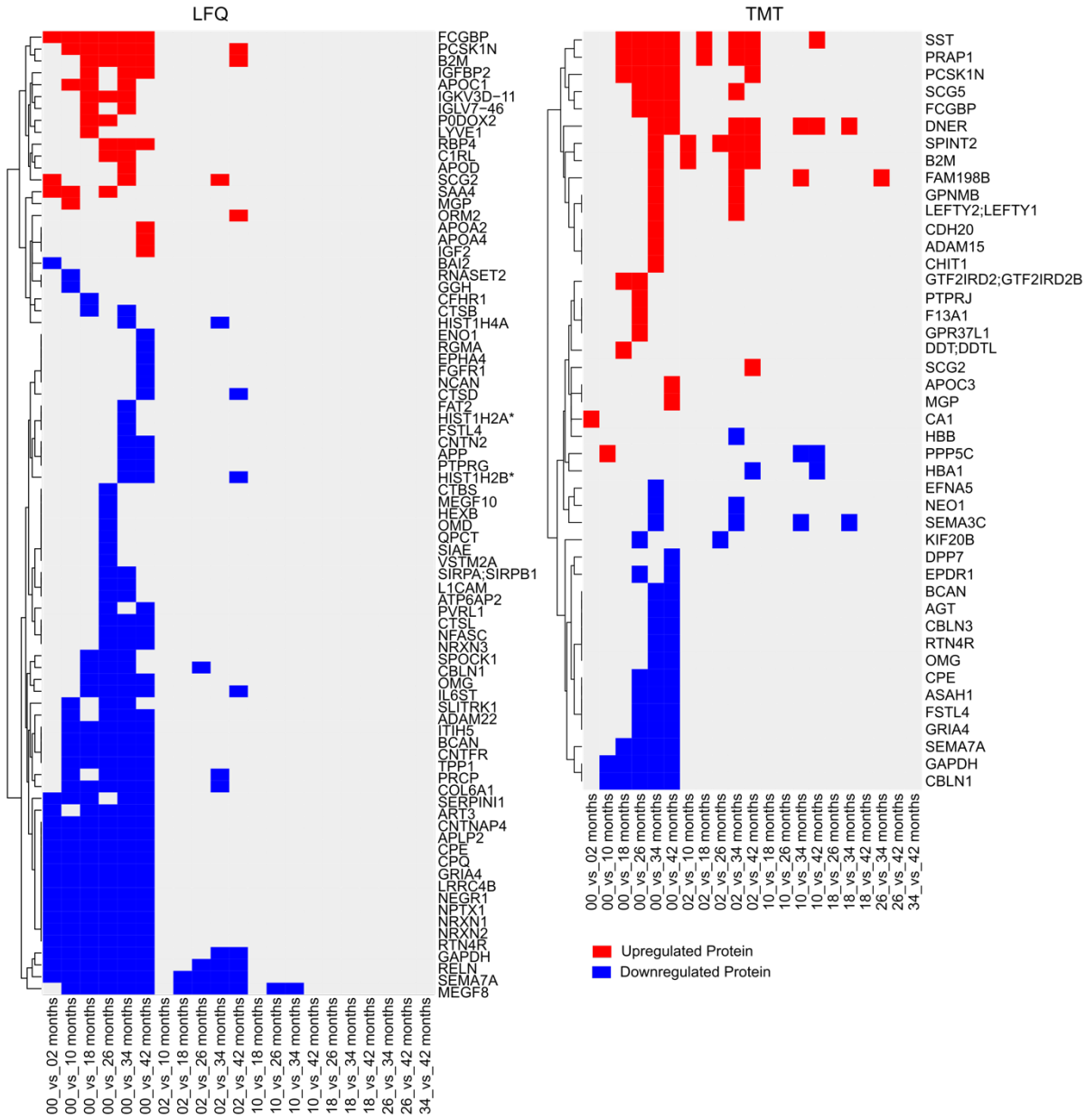
Patient No.	SMA type	SMA class	Age [years]	Gender	Duration of symptoms [years]	*SMN1* Genetics	*SMN2* [n]	Wheelchair	HFMSE baseline	ΔHFMSE after 10 months
SMA01	3b	W	18	m	6	Het. Δ7/8, c.283G < C	2	yes	44	3
SMA02	3a	S	24	f	20	Het. Δ7/8, c*3 + 6T > G	2	yes	36	2
SMA03	3b	S	27	m	19	Homozygous Δ7/8	4	yes	26	9
SMA04	3b	W	38	m	23	Homozygous Δ7/8	3	no	41	7
SMA05	3a	S	33	f	23	Homozygous Δ7/8	2	yes	10	0
SMA06	3a	W	48	f	46	Homozygous Δ7/8	4	no	15	12
SMA07	3b	W	50	m	34	Homozygous Δ7/8	4	no	56	0
SMA08	3b	S	50	m	46	Homozygous Δ7/8	4	yes	7	0
SMA09	3b	S	46	f	37	Het. Δ7/8, c.821C > T	3	yes	6	0
SMA10	2	N	29	f	29	Homozygous Δ7/8	4	yes	0	0
SMA11	3b	W	35	m	21	Homozygous Δ7/8	3	no	49	1
SMA12	2	S	18	f	17	Homozygous Δ7/8	3	yes	2	4
SMA13	3b	W	34	m	23	Homozygous Δ7/8	4	no	57	5
SMA14	3a	S	20	f	17	Homozygous Δ7/8	3	yes	16	0
SMA15	3b	S	27	m	14	Homozygous Δ7/8	4	yes	25	0
SMA16	3a	S	31	m	29	Homozygous Δ7/8	3	yes	10	2
SMA17	3a	S	41	m	39	Homozygous Δ7/8	4	yes	9	-3
SMA18	3a	S	30	f	30	Homozygous Δ7/8	3	yes	2	0
SMA19	3a	S	33	f	32	Het. Δ7/8, c.90 91insT	2	yes	29	3
SMA20	2	N	22	m	21	Homozygous Δ7/8	3	yes	0	0
SMA21	3b	W	57	m	39	Homozygous Δ7/8	4	no	59	1
SMA22	3a	S	21	m	20	Homozygous Δ7/8	4	yes	19	2
SMA23	3a	S	23	f	19	Homozygous Δ7/8	3	yes	25	3
SMA24	3b	S	40	f	29	Homozygous Δ7/8	3	yes	8	1
Mean	**N/A**	**N/A**	**33.1**	**N/A**	**26.4**	**N/A**	**3**	**N/A**	**23**	**2.2**
SEM	**N/A**	**N/A**	**2.3**	**N/A**	**2.1**	**N/A**	**0.2**	**N/A**	**3.9**	**0.7**



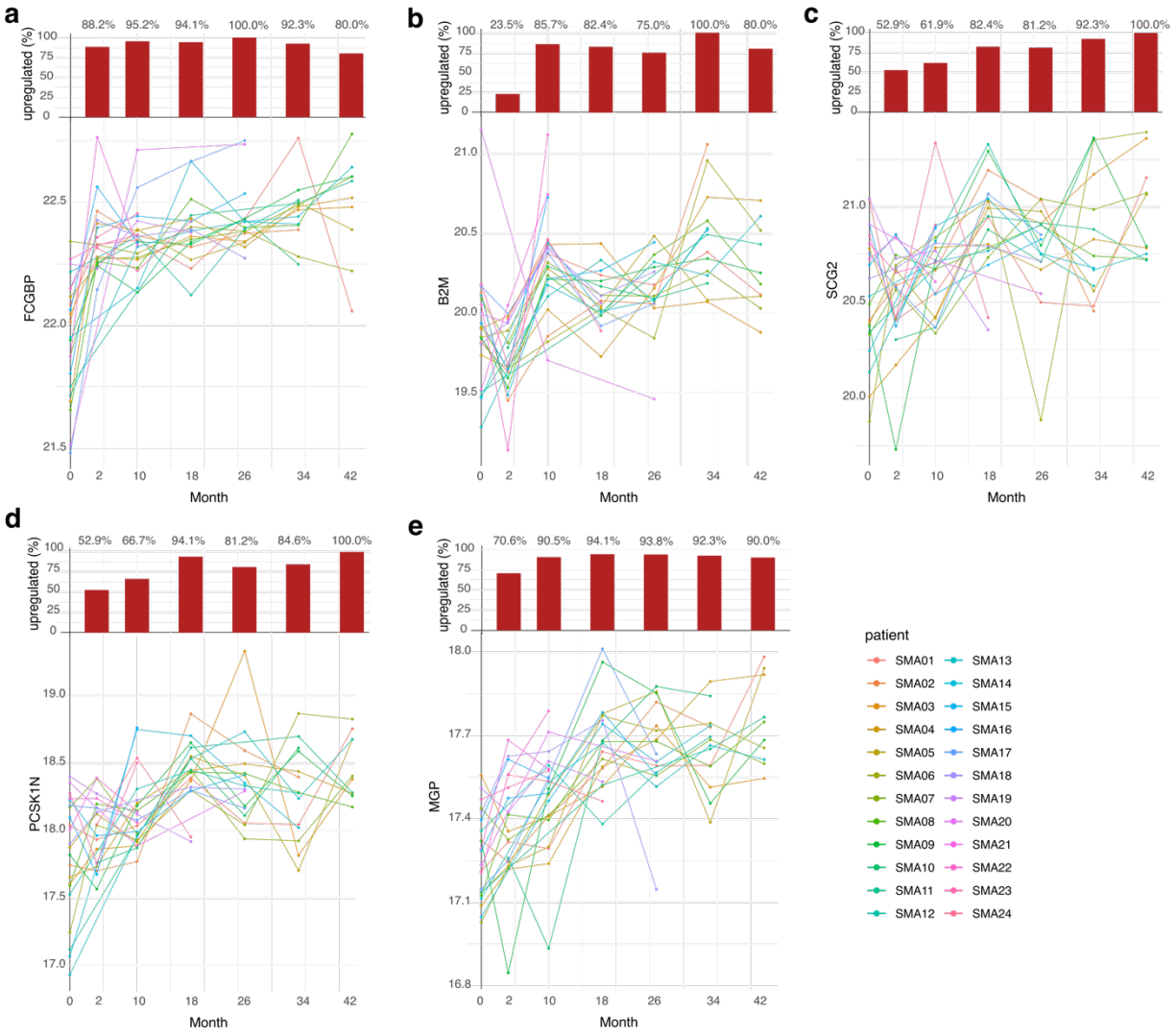
Supplementary Fig. 1 HFMSE score change by subcategory. **A**, Based on *SMN2* copy numbers. **B**, Based on SMA type. **C**, Based on functional classification. **Upper row**, Clinical response measured after 10 months of treatment with nusinersen. **Lower row**, Clinical response measured after 34 months of treatment with nusinersen.



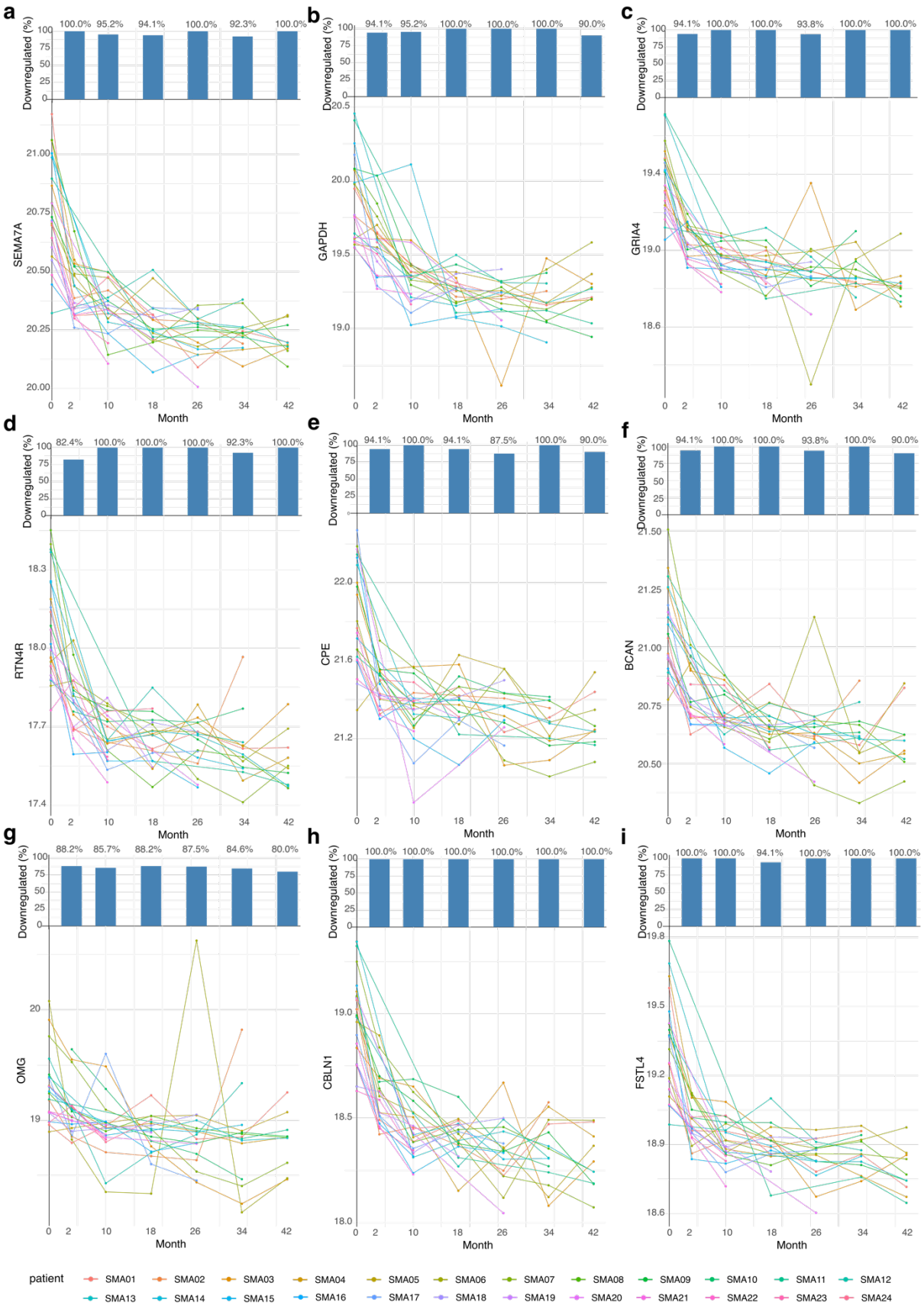
Supplementary Fig. 2 Correlation analysis of clinical response with patient characteristics in our study cohort. **A**, Correlation with HFMSE baseline score. **B**, Correlation with age in years. **C**, Correlation with symptom duration. **Upper row**, Clinical response measured after 10 months of treatment with nusinersen. **Lower row**, Clinical response measured after 34 months of treatment with nusinersen.



Supplementary Fig. 3 Differentially expressed protein (DEP) analysis for each timepoint. **a** DEPs in the LFQ analysis. **b** DEPs in the TMT analysis.



Supplementary Fig. 4 Temporal dynamics of upregulated longitudinal DEPs in individual patients and the proportion of patients at each time point with upregulated levels of the respective protein compared to baseline. The selected proteins shown are **a** FCGBP, **b** B2M, **c** SCG2, **d** PCSK1N, and **e** MGP.


a
b
c
d
e
f
g
h
i
Downregulated (%)
SEMA7A
GAPDH
GRIA4
RTN4R
CPE
BCAN
OMG
CBLN1
FSTL4
Month
patient
SMA01
SMA02
SMA03
SMA04
SMA05
SMA06
SMA07
SMA08
SMA09
SMA10
SMA11
SMA12
SMA13
SMA14
SMA15
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SMA18
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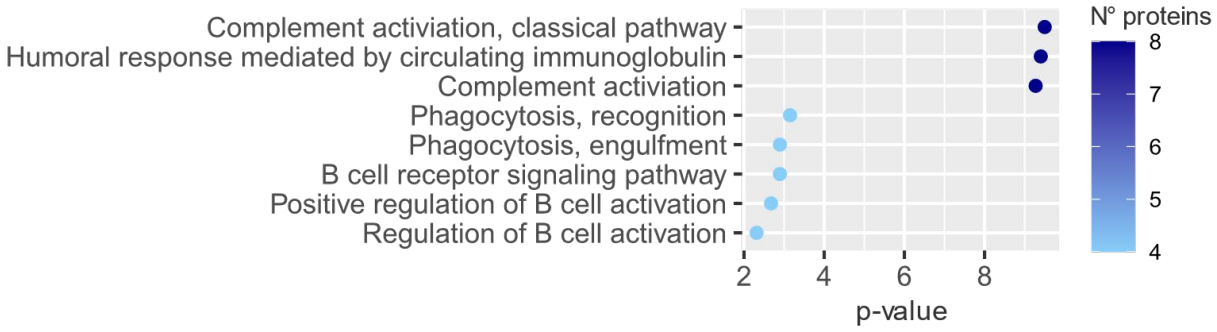
SMA23
SMA24

Supplementary Fig. 5 Temporal dynamics of downregulated longitudinal DEPs in individual patients and the proportion of patients at each time point with downregulated levels of the respective protein compared to baseline. The selected proteins shown are **a** SEMA7A, **b** GAPDH, **c** GRIA4, **d** RTN4R, **e** CPE, **f** BCAN, **g** OMG, **h** CBLN1 and **i** FSTL4.



Supplementary Fig. 6 GO term analysis of negatively correlated protein changes with HFMSE alterations in LFQ proteomics. There are no GO terms of negatively correlated protein changes with HFMSE alterations in LFQ proteomics.