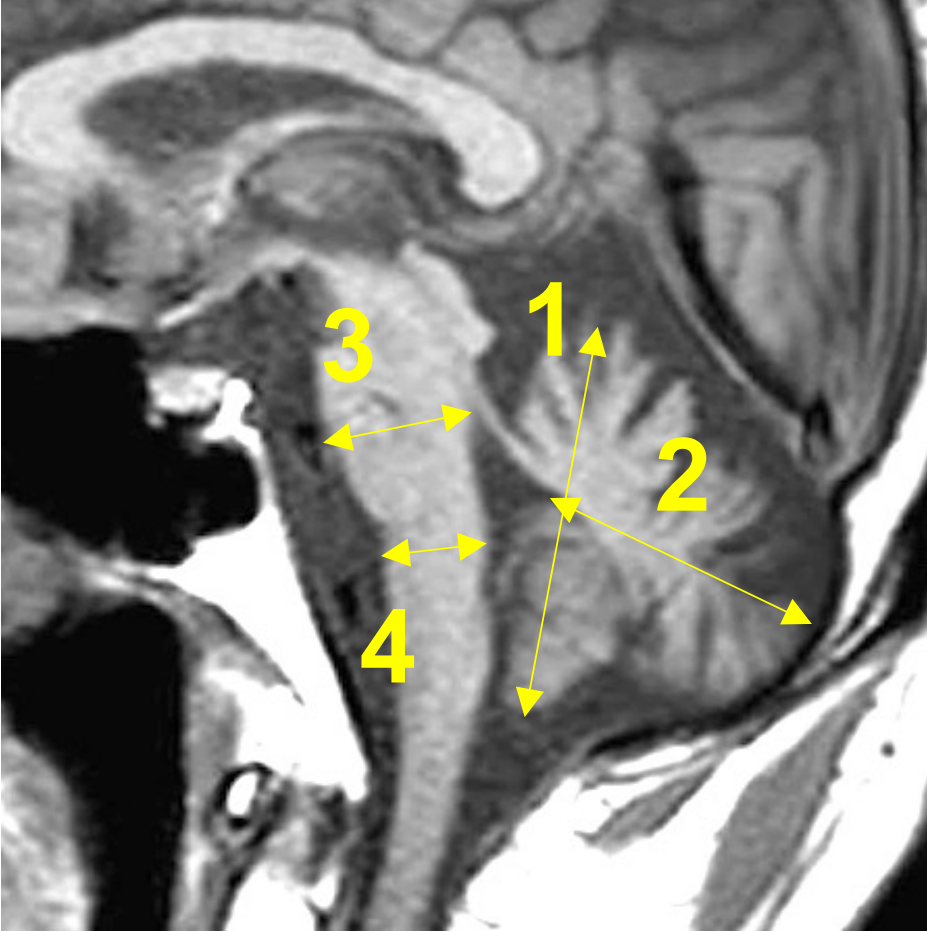


**Additional Fig. 1**



**Additional Table 1** Detection rates of cytokines/chemokines/growth factors in CSF

Cytokines/c hemokines/ growth factors	Lower detection limit (pg/mL)	Upper detection limit (pg/mL)	Detection rate (%)			Fisher's exact probability test (corrected p-value)		
			MSA-C (n=20)	SCA (n=12)	OND (n=15)	SCA vs. OND	MSA vs. OND	MSA vs. SCA
PDGF	1.93	7901.39	15 (75)	11 (91.7)	15 (100)		ns	
IL-1 $\beta$	0.14	2235.71	17 (85)	10 (83.3)	15 (100)		ns	
IL-1ra	6.4	109446.58	20 (100)	12 (100)	6 (40)		<0.0001	
						0.0033	<0.0001	ns
IL-2	0.99	15632.7	20 (100)	12 (100)	15 (100)		ns	
IL-4	0.05	3955.54	20 (100)	12 (100)	15 (100)		ns	
IL-5	0.1	1717.01	20 (100)	10 (83.3)	15 (100)		ns	
IL-6	0.09	21967.54	20 (100)	11 (91.7)	14 (93.3)		ns	
IL-7	0.15	9741.34	20 (100)	12 (100)	15 (100)		ns	
IL-8	0.15	9741.34	20 (100)	12 (100)	15 (100)		ns	
IL-9	2.1	27266.35	20 (100)	12 (100)	15 (100)		ns	
IL-10	0.13	8532.8	20 (100)	12 (100)	15 (100)		ns	
IL-12	0.14	35413.31	20 (100)	12 (100)	11 (73.3)		0.0104	
						ns	ns	ns
IL-13	0.51	8532.8	20 (100)	12 (100)	15 (100)		ns	
IL-15	6.32	6313.53	20 (100)	12 (100)	15 (100)		ns	
IL-17	2.32	28220.26	20 (100)	12 (100)	15 (100)		ns	
Eotaxin	2.02	5907.11	19 (95)	10 (83.3)	12 (80)		ns	
FGF	3.35	3444.29	20 (100)	12 (100)	15 (100)		ns	
G-CSF	1.88	28708.32	20 (100)	12 (100)	15 (100)		ns	
GM-CSF	3.45	14312.7	20 (100)	12 (100)	15 (100)		ns	
IFN- $\gamma$	5.75	32298.62	19 (95)	10 (83.3)	15 (100)		ns	
IP-10	1.9	8611.36	20 (100)	12 (100)	15 (100)		ns	
MCP-1	6.01	22755.62	20 (100)	12 (100)	15 (100)		ns	
MIP-1a	0.31	927.76	20 (100)	12 (100)	15 (100)		ns	
MIP-1b	0.24	3259.2	20 (100)	12 (100)	15 (100)		ns	
RANTES	2	6697.98	20 (100)	12 (100)	3 (20)		<0.0001	
						<0.0001	<0.0001	ns
TNF- $\alpha$	1.44	5348.73	20 (100)	12 (100)	15 (100)		ns	
VEGF	0.76	12519.49	20 (100)	12 (100)	15 (100)		ns	

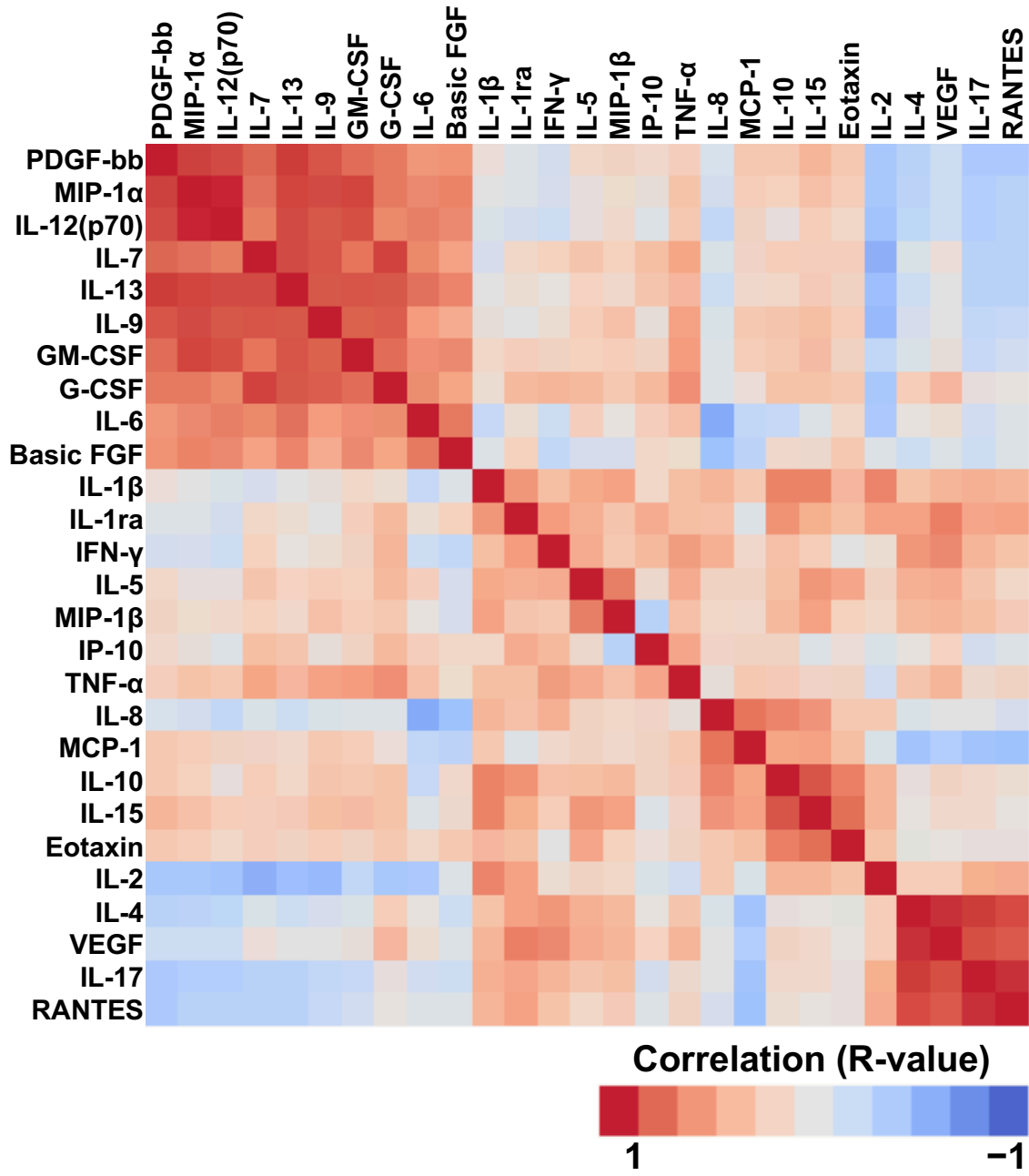
No samples were beyond the upper detection limits. Detection rates are expressed at the percentage of samples beyond the lower detection limit in each group. Statistically significant differences in detection rates between groups are shown as corrected p-values (p-values from the Fisher's exact probability test were corrected using the Bonferroni method). ns: not significant.

## **Additional Table 2** Summary of dysregulated cerebrospinal fluid cytokines

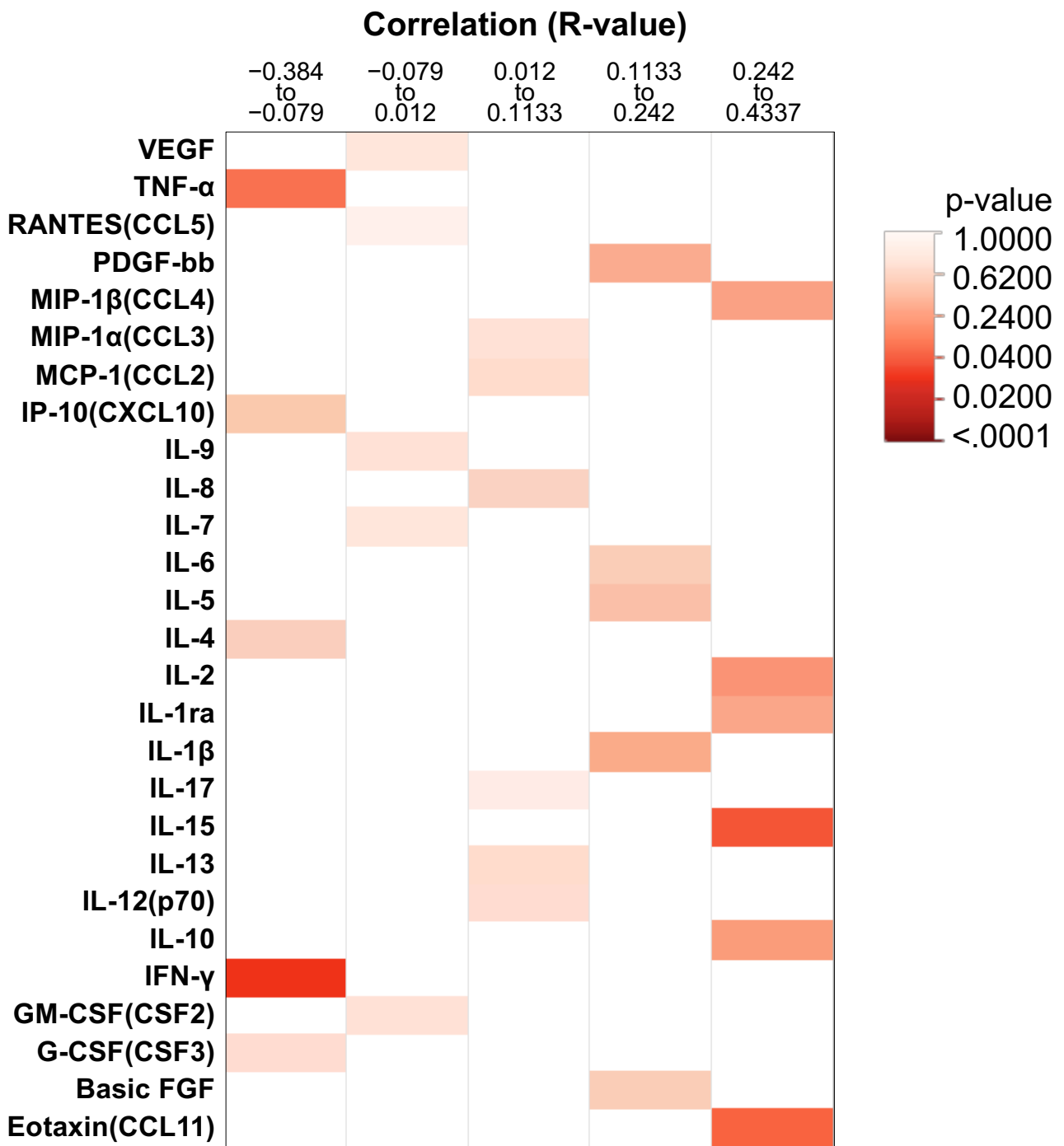
<b>Pattern of dysregulation</b>	<b>Cytokines</b>
1) Up-regulated in both SCA and MSA-C	IL-6, IL-7, IL-12, IL-13, GM-CSF
2) Down-regulated in both SCA and MSA-C	Basic FGF, VEGF, IL-1 $\beta$ , IL-2, IL-4, IL-5, IL-8, IL-10, IL-15, MIP-1 $\beta$ , TNF- $\alpha$
3) Up-regulated only in SCA	IL-9, PDGF-bb, IP-10
4) Up-regulated only in MSA-C	IL-1ra
5) Unchanged	G-CSF, MCP-1, MIP-1 $\alpha$ , RANTES, EOTAXIN, IL-17, IFN- $\gamma$

IL: interleukin, GM-CSF: granulocyte-macrophage colony-stimulating factor, FGF: fibroblast growth factor, VEGF: vascular endothelial growth factor, MIP: macrophage inflammatory protein, TNF: tumor necrosis factor, IL-1ra: interleukin-1 receptor antagonist, G-CSF: granulocyte colony-stimulating factor, PDGF-bb: platelet-derived growth factor-bb (homodimer), IP-10: interferon-inducible protein-10, IFN: interferon.

# Additional Fig. 2



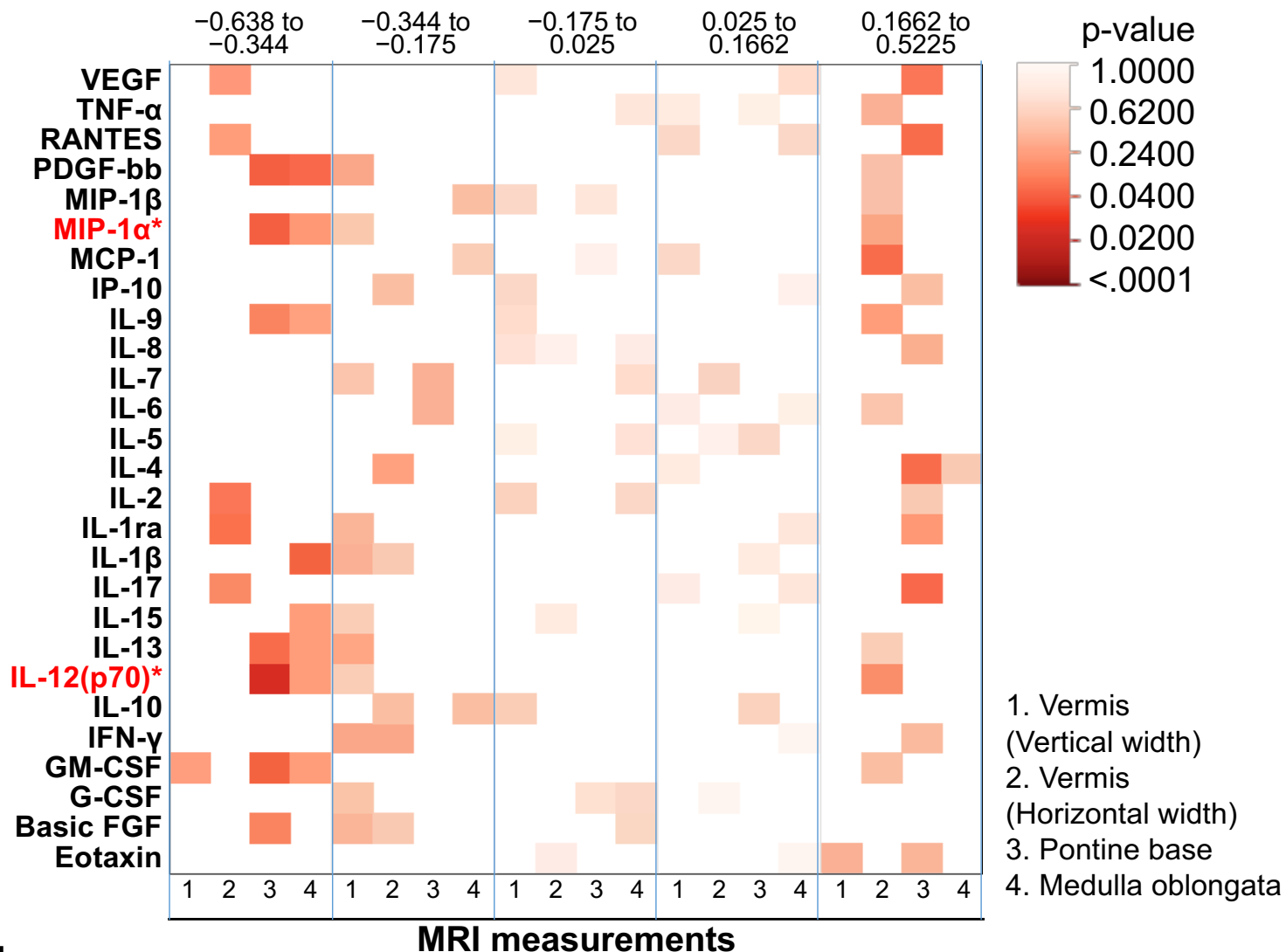
# Additional Fig. 3



# Additional Fig. 4

**a**

## Correlation (R-value)



**b**

