

**Supplementary Table 3. Serum TNF, IFN $\gamma$ , and NGAL are significantly different between PD and HC and demonstrate minimal variability across a 24-hour period.**

	Serum						CSF						
	Condition df = 1,16		Time of Day df = 10,160		Interaction df = 10,160		Condition df = 1,16		Time of Day df = 10,154		Interaction df = 10, 154		
	F stat	p value	F stat	p value	F stat	p value	F stat	p value	F stat	p value	F stat	p value	
TNF	208.58	<0.0001	0.11	1.00	0.09	1.00	0.01	0.93	4.66	<0.0001 <sup>2</sup>	0.40	0.95	
IFN $\gamma$	8.49	0.009	0.38	0.95	0.16	1.00	0.00	0.98	1.09	0.37	0.14	1.00	
NGAL	25.98	<0.0001	0.73	0.69	0.50	0.89	0.33	0.58	0.70	0.73	0.07	1.00	
CRP	0.13	0.72	0.03	1.00	0.02	1.00	0.60	0.45	0.04	1.00	0.05	1.00	
IL-6	4.23	0.06	3.12	0.001 <sup>1</sup>	0.45	0.92	0.13	0.72	1.85	0.06	0.20	1.00	
IL-8	2.18	0.16	0.04	1.00	0.06	0.99	5.08	0.04	2.23	0.01 <sup>3</sup>	1.79	0.07	
	Serum $\alpha$ synuclein, A $\beta$ <sub>40</sub> , and A $\beta$ <sub>42</sub> were not collected						Condition df = 1,16	Time of Day df = 1,160		Interaction df = 1,160			
$\alpha$ Syn	X	X	X	X	X	X	8.35	0.01	3.30	0.0007 <sup>4</sup>	0.24	0.99	
A $\beta$ <sub>40</sub>	X	X	X	X	X	X	14.69	0.001	4.11	<0.0001 <sup>4</sup>	0.13	1.00	
A $\beta$ <sub>42</sub>	X	X	X	X	X	X	4.61	0.05	2.15	0.02 <sup>5</sup>	0.26	0.99	

Two-way repeated measures analysis of variance by time and condition (HC and PD) for each serum and CSF analyte revealed that serum TNF, IFN $\gamma$ , and NGAL differ between HC and PD across the day. Superscripts indicate the hour of the day where significant differences occur; 1 = 0 through 10th sampling hour, 2 = 6th and 10th sampling hour, 3 = 10th sampling hour, 4 = 0 through 6th sampling hour, and 5 = 0 through 4th sampling hour. X indicates that samples were not collected or analyzed.