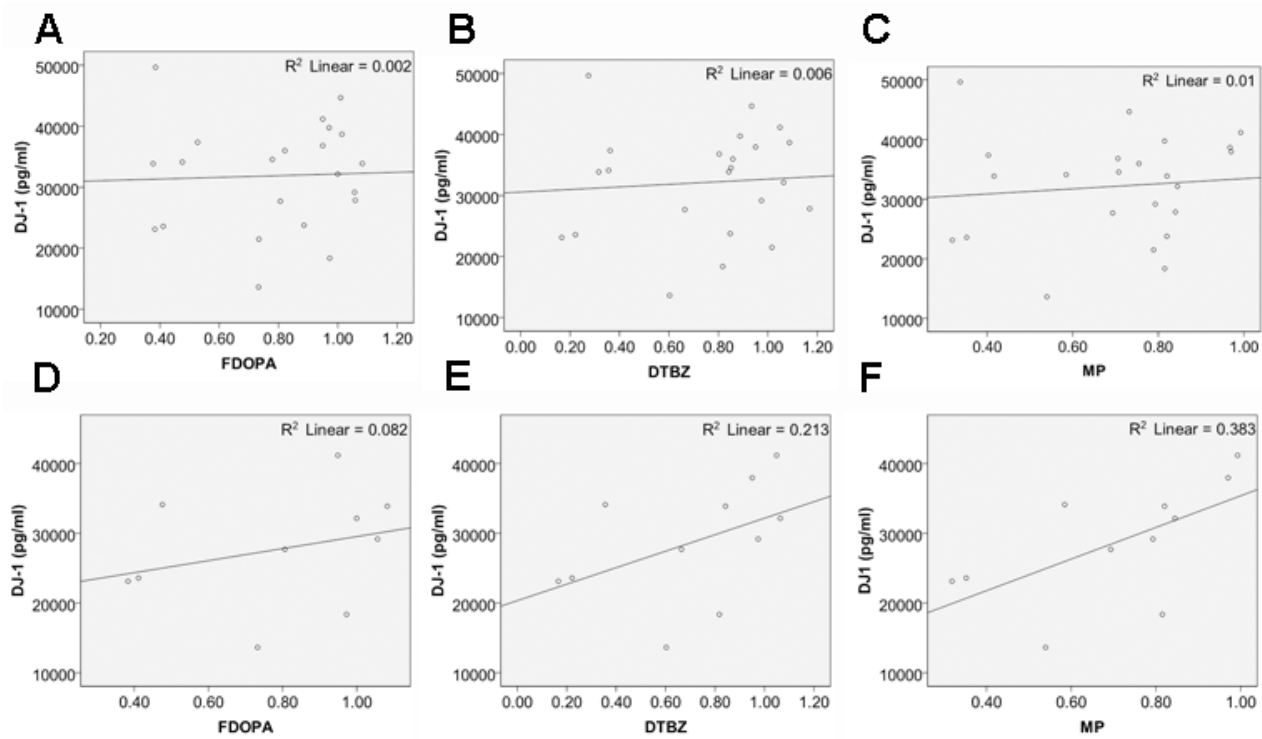


## Figure Legends

**Supplemental Figure 1.** Graphical representation of individual sample levels of DJ-1 plotted against PET signals (FDOPA, DTBZ, and MP) measuring dopamine function. There is no significant correlation between dopamine dysfunction, measured by PET scan, in DJ-1 in the CSF of LRRK2 gene mutation carriers (A-C). In the G2019S subset of LRRK2 gene mutation carriers, there was a very weak positive correlation detected between DJ-1 and MP signal (F), but not other signals measured (D-E).

**Supplemental Table 1.** List of Kendall's tau-b statistics for LRRK2 gene mutation carriers (DJ-1 values correspond to Figure 1 A-C) and the G2019S subset of LRRK2 gene mutation carriers (DJ-1 values correspond to figure 1 D-F). There is no significant correlation between dopamine dysfunction, as measured by PET scans and  $\alpha$ SYN or DJ-1 in LRRK2 carriers. In the G2019S subset of carriers, there was a very weak correlation between DJ-1 and MP signal.

**Supplemental Table 2.** List of Kendall's tau-b statistics for LRRK2 gene mutation carriers and the G2019S subset of LRRK2 gene mutation carriers. There is no significant correlation between CSF  $\alpha$ SYN or DJ-1 and PD symptom severity, measured with either Hoehn and Yahr Stage Scale or the Unified Parkinson's Disease Rating Scale in either LRRK 2 carriers or the subset of G2019S carriers.



**Supplemental Figure 1.** Graphical representation of individual sample levels of DJ-1 plotted against PET signals (FDOPA, DTBZ, and MP) measuring dopamine function.

**Supplemental Table 1. Correlation coefficients describing the relationship between dopamine dysfunction and CSF levels of  $\alpha$ Synuclein and DJ-1.**

	FDOPA	DTBZ	MP
DJ-1 (all)	.126 (.414)	.162 (.279)	.194 (.196)
DJ-1 (G2019S)	.289 (.245)	.418 (.073)	.564 (.016)*
Alpha-synuclein (all)	.022 (.888)	.107 (.476)	.138 (.355)
Alpha-synuclein (G2019S)	.111 (.655)	.018 (.938)	.164 (.484)

**Correlation coefficient (*p*-value). \*=*p*<0.05**

**Supplemental Table 2. Correlation coefficients describing the relationship between scores on Parkinson's severity scales and CSF levels of  $\alpha$ Synuclein and DJ-1.**

	H&Y	UPDRS Motor
DJ-1 (all)	-.123 (.604)	-.085 (.589)
DJ-1 (G2019S)	-.356 (.251)	-.019 (.937)
Alpha-synuclein (all)	.088 (.711)	-.174 (.268)
Alpha-synuclein (G2019S)	-.089 (.774)	-.208 (.385)

Correlation coefficient (*p*-value).