Study shows how Parkinson's disease can quietly progress undetected for years

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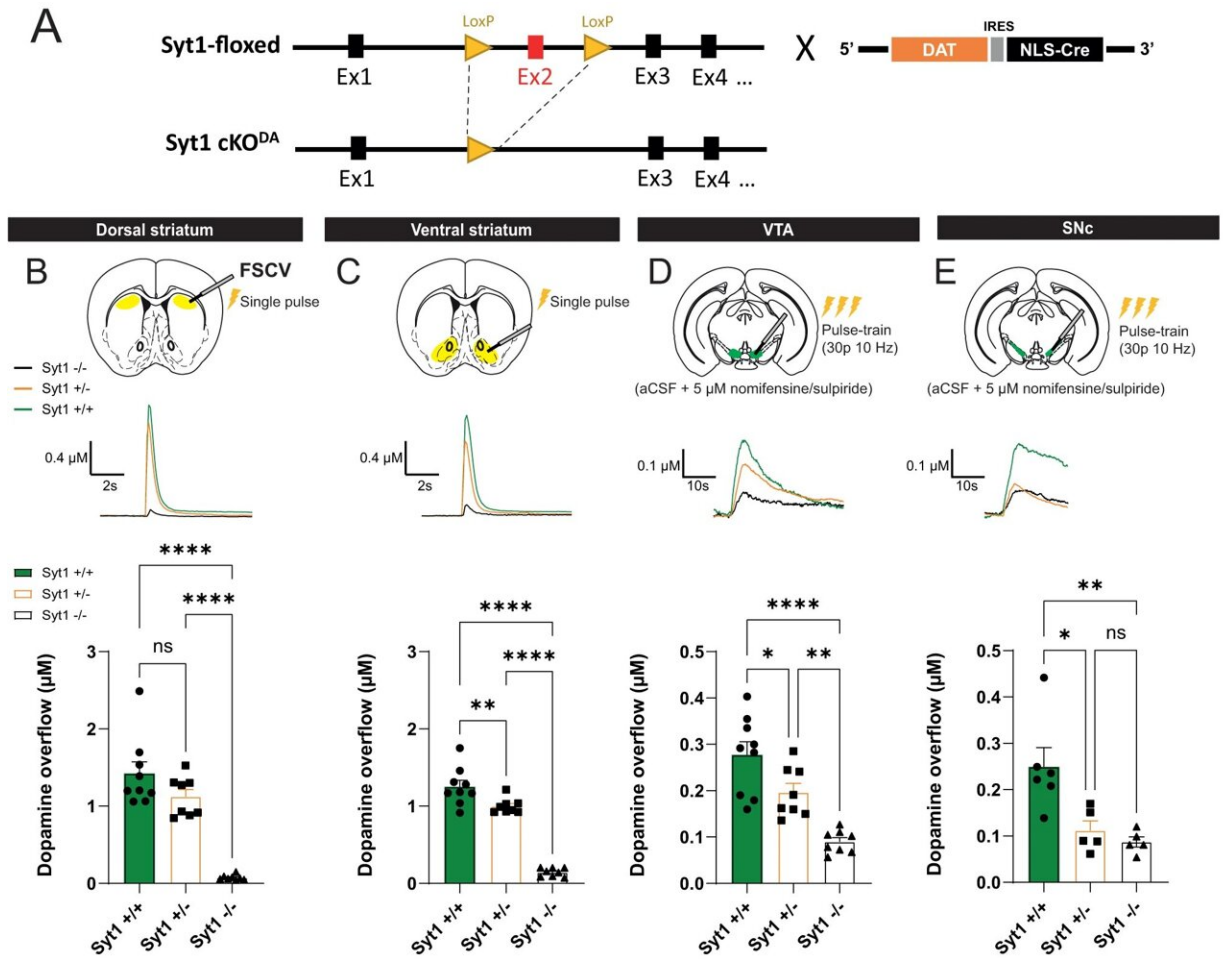

Syt1 is the main calcium sensor for fast axonal dopamine release. **A** Generation of conditional knockout of Syt1 in DA neurons by crossing Syt1-floxed mice ($Syt1^{lox/lox}$) with $DAT^{IREScre}$ mice. **B** Fast-scan cyclic voltammetry recording of Syt1 cKO^{DA} mice in the dorsal striatum. Representative traces (top) and quantification of peak amplitude (bottom) obtained with single-pulse electrical

stimulation (1 ms, 400 µA) in $Syt1^{+/+}$ (n = 18 slices/9 mice), $Syt^{+/-}$ (n = 16/8) and $Syt1^{-/-}$ mice (n = 16/8). **C** Same, but in the ventral striatum (NAc core and shell, n = 18 slices/9 mice in $Syt1^{+/+}$, n = 16/8 in $Syt^{+/-}$ and n = 16/8 in $Syt1^{-/-}$). **D** Representative traces (top) and quantification of peak amplitude (bottom) obtained in the VTA (n = 16 slices/9 mice in $Syt1^{+/+}$, n = 14/8 in $Syt^{+/-}$ and n = 16/8 in $Syt1^{-/-}$) with aCSF containing nomifensine (DAT blocker) and sulpiride (D2 antagonist) (both at 5 µM), and pulse-train stimulation (30 pulses of 1 ms at 10 Hz, 400 µA). **E** Same for the SNc (n = 11 slices/6 mice in $Syt1^{+/+}$, n = 10/5 in $Syt^{+/-}$ and n = 9/5 in $Syt1^{-/-}$). Error bars represent ± SEM and the statistical analysis was carried out by one-way ANOVAs followed by Tukey tests (ns, non-significant; *P