

**Supplementary Figure 2.** The schematic diagram depicts the time schedule of intervention and analyses performed. Numerals represent the days experiments were conducted. On 1<sup>th</sup> day we injected saline or MPTP (2 h interval, 4 times, 20 mg/kg free base) in 8 months WT, GBA<sup>+/L444P</sup>, SNCA<sup>-/-</sup>, GBA<sup>+/L444P</sup>SNCA<sup>-/-</sup> mice. On 6th day, the pole and grip strength were performed. On 7th day, mice were sacrificed for indicated studies. Following are animal numbers used for these studies: behavioral (n=10), neurochemical (n=5), immunohistochemistry (n=5), and biochemical studies (n=4) per each treatment group.