SI legends:

**SI Table 1.** Amplitude of variation in CBVrel (% mean values ± SD) following administration of 8-OH-DPAT in adult mice (Control F1 and F2 males, n=11).

**SI Table 2.** Statistical values of ANOVA analyses and FDR correction showing the effect of MSUS treatment on CBVrel (% mean values) following 8-OH-DPAT administration in F1 males (Control n=5 and MSUS n=7), F2 males (Control n=6 and MSUS n=4) and F2 females (Control n=4 and MSUS n=6). Significant p values are in bold (new threshold FDR 5%, p=0.0151, p=0.0162 and p=0.0085 for F1 males, F2 males and F2 females, respectively).

**SI Table 3.** Amplitude of variation in mean values of cross-correlation (CC) coefficients following administration of 8-OH-DPAT in adult mice (Control F1 and F2 males, n=11).

**SI Table 4.** Statistical values of ANOVA analyses and FDR correction showing the effect of MSUS on mean values of cross-correlation coefficients following 8-OH-DPAT administration in (A) F1 control (n=5) and MSUS (n=7) males, (B) F2 control (n=6) and MSUS (n=4) males and (C) F2 control (n=4) and MSUS (n=6) females. Connections represented in Figure 4 are indicated in bold: FDR 5% p<0.05 (uncorrected p<0.0001) and FDR 32% (uncorrected p<0.0063) for F1 males; FDR 5% p<0.05 (uncorrected p<0.0001) and FDR 27% (uncorrected p<0.0116) for F2 males; and FDR 32% (uncorrected p<0.0054) for F2 females. Significant differences (FDR 5% p<0.05) are highlighted in yellow.
**SI Figure 1. (A)** Number of tests found to be positive at different levels of FDR in F1 males, F2 males and females. **(B)** The p value threshold to be considered significant at different levels of FDR in F1 males, F2 males and females. For purposes of representation, the FDR selected was such to enable the retention on average of 15 connections. An FDR of 32% was selected in F1 males and F2 females, and an FDR of 27% in F2 males. The latter was chosen as it was graphically confusing to represent all 40 connections present with an FDR of 32%.