General cell class marker gene expression across clusters DRD1\_MSN\_A DRD1\_MSN\_B DRD1\_MSN\_C DRD1\_MSN\_D DRD2\_MSN\_A DRD2\_MSN\_B centered, scaled Inh\_A\_TAC3 2 0 -2 Inh\_B\_SST class Inh\_C\_Chat MSN Inhibitory Excitatory Inh\_D population D1\_MSN D2\_MSN Inhibitory Inh\_E\_NPY Excitatory Inh\_F\_CCK Inh\_G\_VIP Inh\_I Inh\_J\_PVALB Excit\_A Excit\_B SLC17A7 CCK VIP INTS12 **RBFOX3** BCL11B CHRM5 DRD2 PENK GPR6 RASD2 TAC3 SST CHAT TRPC4 CPNE4 RXFP2 RELN NΡΥ FOXP2

GAD1

PPP1R1B

DRD1

OPRM1

RXFP1

ADORA2A