Glutamate metabolism All SiRCle Clusters SLC1A3 SLC38A1 SLC7A11 **GLUL** GOT1 **OPLAH NAGS** Condition SLC7A7 Old Young **GPT** VAE Integrated Rank (Mean) SLC1A7 -1 GPT2 0 SLC38A5 ALDH4A1 SLC6A13 SLC6A1 SLC3A2 **SLC25A13** GLUD1 **GLS** ACY1 GOT2 -2 VAE integrated value