GLUTAMATERGIC SYNAPSE Glul, GS, Glns Citrate cycle (TCA cycle) Growth factor Attenuates production activation (astrocyte) (microglia) Glial cell Glu 🔿 $^{\operatorname{Gh}}{\mathfrak O}$ Grm3, 071000. Slc38a3, 061... Slc1a2, 1700... Grm5, 643054. **→**oGlu $\phi_{\mathrm{Ca}^{2+}}$ Autoreceptors Grm2, 493044... Grm8, A23000... Slc1a1, D130.. Cacna1c, Cav... Ģ Gln Neuron (Postsynaptic cell) Gm15776, OTT Adrbk1, Adrb... Slc38a1, AA4. Grik4, 63305.. °**⊙**-K⁺ Long-term potentiation Long-term depression Na^T Ca²⁺/ Neuron (Presynaptic terminal) Feedback inhibition of glutamate release Mitochondria Neuronal excitability
Synaptic plasticity Gria1, 29000. CAMP Na⁺≠ Endoplasmic reticulum Gls, 6330442... . . O-Ca²⁺ Na⁺ Grin1, GluN1 CO25 Calcium signaling pathway Glu • . Glu Exocytosis Itpr1, D6Pas. Synaptic vesicle $\overset{\P}{\diamondsuit}$ $\overset{2}{\complement}$ Slc17a6, 290. Homer1, PSD-. Synaptic vesicle cycle Glu Pla2g4a, Pla... $_{
m Glu}$. Neuronal excitability Synaptic plasticity Pld1, AA5369. DAG Endocytosis Mapk1, 90306.. Prkaca, PKCD. cAMP Action potential Grm2, 493044 Glu Synaptic cleft 04724 10/23/15 (c) Kanehisa Laboratories