



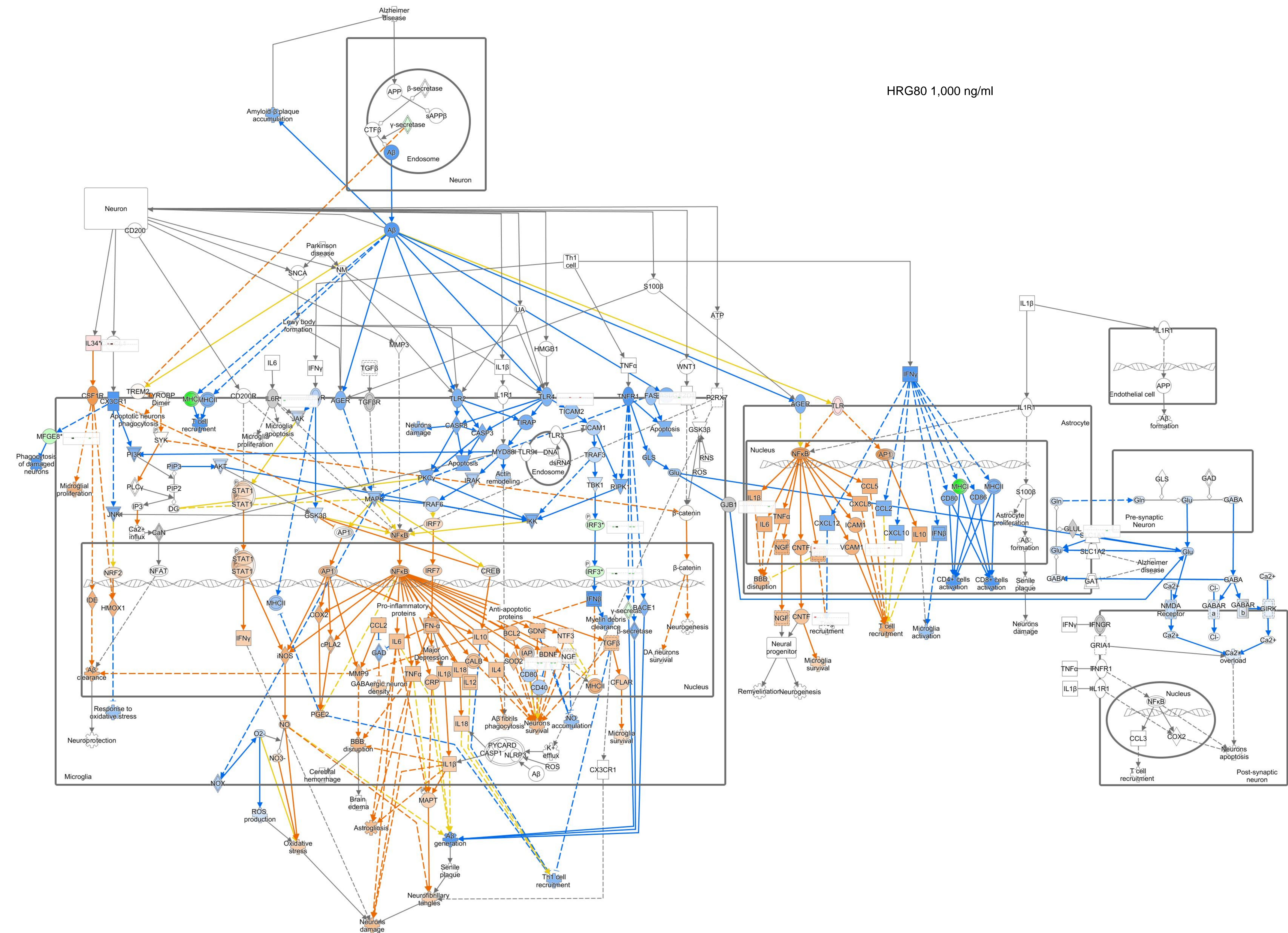




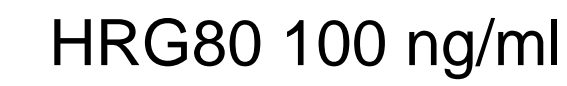


Neuroinflammation involves numerous cell types, acts to clear neuronal damage, and plays a key role in maintaining the homeostasis of CNS. Homeostasis can be lost through various regulatory failures, or when humoral immune components cross the blood-brain barrier, causing chronic inflammation with excessive cell and tissue damage, which is associated with neurodegenerative diseases.

HRG80 1,000 ng/ml



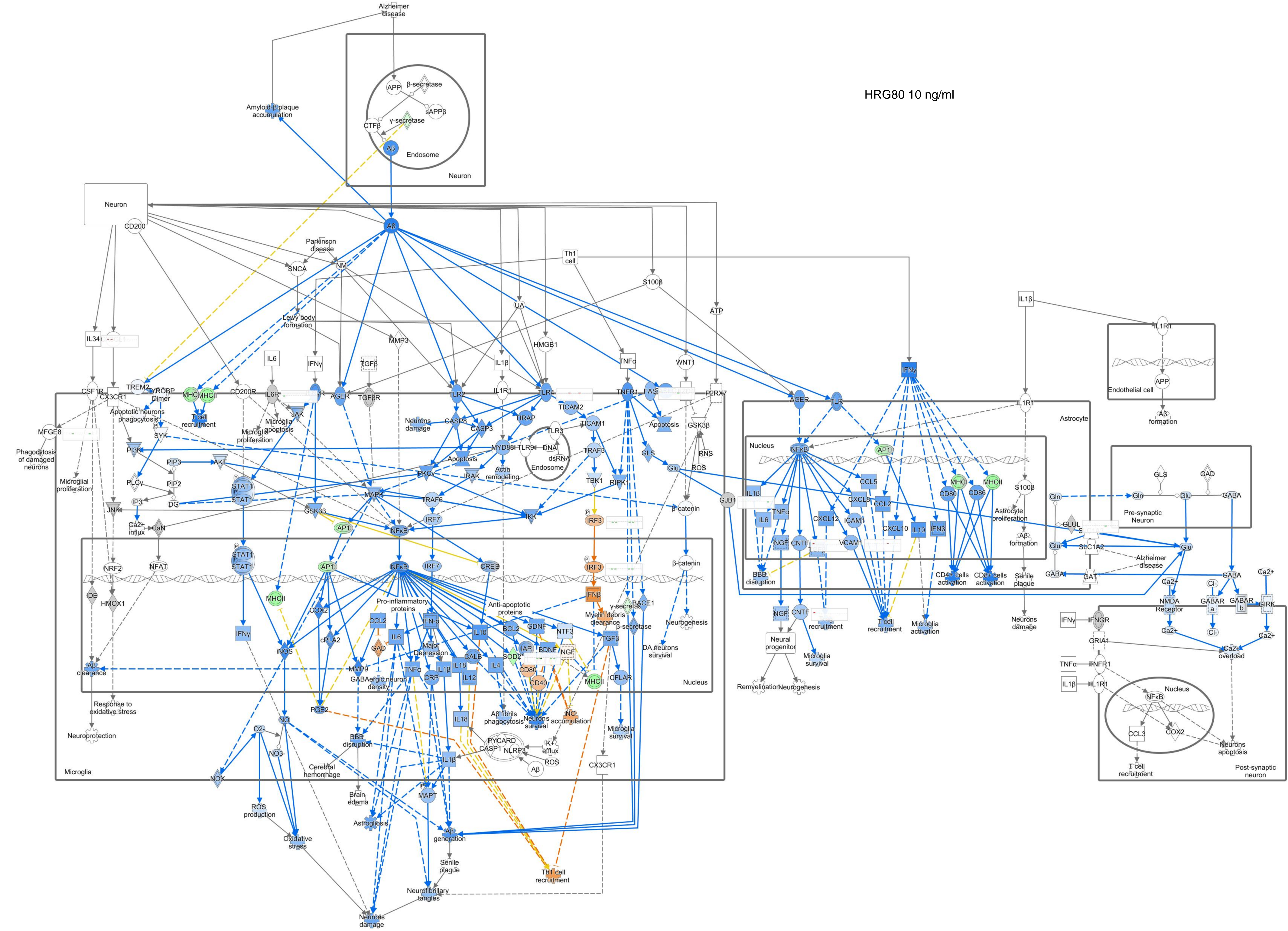






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HRG80 10 ng/ml





The diagram illustrates the complex signaling pathways of Amyloid-beta (Aβ) and its interactions with various cellular components and signaling molecules. The diagram is organized into several functional regions: Neuron (top left), Astrocyte (top right), Microglia (bottom left), and Post-synaptic neuron (bottom right).

**Neuron (Top Left):** Shows the Amyloid Precursor Protein (APP) pathway, where APP is cleaved by β-secretase and γ-secretase to produce Aβ. Aβ can then bind to receptors like CD200, IL34, and CX3CR1, leading to various downstream effects including microglial proliferation, apoptosis, and neuroprotection. The diagram also shows the role of various kinases like PI3K, AKT, and JNK in these pathways.

**Astrocyte (Top Right):** Illustrates the signaling pathways involving Interleukin-1β (IL1β) and Interleukin-6 (IL6). IL1β binds to IL1R1, leading to the activation of NF-κB and AP1, which then regulate various genes. IL6 binds to IL6R, leading to the activation of JAK and STAT3. The diagram also shows the role of various receptors like TLRs and NLRs in these pathways.

**Microglia (Bottom Left):** Shows the signaling pathways involving TLRs and NLRs. TLRs like TLR2, TLR4, and TLR6 bind to various ligands, leading to the activation of MyD88, IRAK, and TRAF, which then activate NF-κB and AP1. NLRs like NLRP3 bind to various ligands, leading to the activation of CASP1 and the production of IL1β. The diagram also shows the role of various receptors like CD200R and CD200 in these pathways.

**Post-synaptic neuron (Bottom Right):** Illustrates the signaling pathways involving GABA and Glutamate (Glu). GABA binds to GABA receptors, leading to the activation of G-proteins and the production of IP3 and DAG. Glutamate binds to NMDA receptors, leading to the activation of Ca2+ influx and the production of ROS. The diagram also shows the role of various receptors like GRIKs and GABARs in these pathways.

The diagram is a detailed representation of the molecular and cellular mechanisms underlying Alzheimer's disease pathology, showing how Aβ can trigger a cascade of events leading to neuroinflammation, neuronal damage, and the formation of amyloid plaques. It also highlights the role of various receptors and signaling molecules in these processes, such as TLRs, NLRs, and various kinases.



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