Herpesvirus infections cause considerable morbidity and mortality through lifelong recurrent cycles of lytic and latent infection in several tissues, including the human nervous system. Herpes simplex virus, type 1 (HSV-1) is a neurotropic virus that establishes latency in human sensory neurons following primary infection. Commonly, the virus manifests as “cold sore” blisters on epithelial mucosa, but is also known to cause blinding keratitis, and rarely encephalitis, which can lead to death. Antivirals, such as valacyclovir, can effectively terminate lytic infection, but viral resistance, neurotoxicity, and their ineffectiveness toward HSV-1 latency has motivated searching for drugs with novel mechanism(s) of action. Finding effective medications is an ongoing challenge that has been hampered by the lack of suitable human cellular models for HSV-1 infection. Here, we aim to utilize human neurons derived from induced pluripotent stem cells (iPSC) to model HSV-1 infection. A second goal is to generate a neuronal platform to produce a high throughput screening of novel anti-HSV-1 drugs.