“Innate immunity in the brain: induction of the inflammasome-pyroptosis axis (IPA) by neurotropic viruses.”

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The inflammasome-pyroptosis axis (IPA) coordinates an inflammatory type of regulated lytic cell death that is underpinned by caspase-activated pore-forming gasdermin proteins. HIV, monkeypox virus, and SARS-CoV-2 trigger activation of caspases-1 and -3, which result in neural cell type-specific gasdermin activation with subsequent pyroptosis. These findings demonstrate novel mechanisms by which viral infections cause activation of distinct innate immune pathways and brain disease, while also offering new diagnostic and therapeutic strategies.