

Brain Organoids – expanding on understanding human brain development, schizophrenia and 'Phase Zero' therapies.

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Stem cell-derived brain organoids replicate important stages of the prenatal human brain development and combined with the induced pluripotent stem cells (iPSCs) technology offer an unprecedented model for investigating human neurodevelopmental diseases including schizophrenia and autism. I will discuss new insights into organoid-based model of schizophrenia and shed light on challenges and future applications of organoid disease model system.

Studies of iPSC and cerebral organoids in combination with electrophysiology, 3D genomics and novel technologies such as nanophotonics/optogenomics, unravel potential applications in the search for new drug treatments and novel technologies such as nanophotonics/optogenomics for controlling and correcting the brain development