

3rd International Conference and Exhibition on **Neurology & Therapeutics**

September 08-10, 2014 Hilton Philadelphia Airport, USA

MicroRNAs in neurovirology

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MicroRNAs (miRNAs) are reported to sequence specifically control translation of target mRNAs. The abundant expression of miRNAs in brain highlights their biological significance in neurodevelopment. miRNAs have been reported to be involved in a variety of functions, including developmental transitions and neuronal patterning, in different organisms. miRNAs act as regulatory switches in determination of developmental fate by their distinct patterns of expression. Several miRNAs are localized to neuronal subtypes and exhibit more diverse or specific expression pattern within various neuronal cell types like glial cells and neuronal progenitor cells. Perturbations in cellular expression pattern of miRNAs during viral infections could have detrimental effects.

Recent studies have demonstrated that many viruses encode their own miRNAs in order to thrive well during the course of their infection cycle. Viruses are also known to perturb the miRNA expression pattern of the host cell for their ease. Our group is trying to understand virus encoded miRNAs as well as the changes in expression pattern of cellular miRNA during viral infection and their significance.

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