Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad - 500107

Seminar

miR-184 modulates neuronal excitability in Drosophila melanogaster

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microRNAs are small noncoding RNAs that are expressed at high levels in the brain and have recently been shown to play a role in neuronal maintenance and activity. In a genetic screen to identify microRNAs that regulate neuronal functions, we found that miR-184 plays a role in regulating sleep-wake behaviour in flies. miR-184 is known to be expressed in the Drosophila brain and has recently been shown to oscillate in the PDF (Pigment Dispersing Factor) neurons, a set of neurons that maintain the circadian rhythm in flies. Further, we have deciphered the role of miR-184, by analysing the activity rhythm and dynamics of PDF neuronal projections which indicate a role in regulating neuronal firing. Using target prediction algorithms, molecular and genetic approaches, we identified putative target genes of miR-184. Our results indicate that miR-184 regulates neuronal firing by buffering the levels of some of these target genes which is key to the maintenance of normal circadian rhythm in flies.

Friday, Feb 8th 2019

4:00 PM (Tea/Coffee at 3:30 PM)

Seminar Hall, TIFR-H