



REGIONAL CENTRE FOR BIOTECHNOLOGY

Seminar series

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**Non - coding RNAs and RNA Binding Proteins: Implication of their Individual and Mutual roles in Regulation of Gene Expression**

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University of Wisconsin - Madison, USA

Tuesday, October 5, 2010

3:00 pm

Board Room

The intricate regulatory network prevalent between different signaling pathways in a cell, governs the balance between the expression of different oncogenes and tumor suppressor genes. This balance is important for the normal development and functioning of the cell, disruption of which leads to the initiation and progression of cancer. Latest additions to this regulatory network are non-coding RNAs (ncRNAs) and RNA Binding Proteins (RBPs), which either exclusively or in association, control a large number of cellular processes. Recently, several RBPs have been assigned to have interference on microRNA biogenesis and function at various steps. In such a way, these RBPs fine tune microRNA mediated gene regulation. In the proposed presentation, the function of Coding Region Determinant Binding Protein (CRD-BP) will be discussed in relation to the development and progression of human malignancies. CRD-BP is an oncofetal RBP involved in stabilization of its target mRNAs and our results show that CRD-BP antagonizes the microRNA machinery in order to prevent microRNA mediated degradation of some of its targets. Significance of this study in relation to the effect of CRD-BP modulating the global efficiency of post-transcriptional gene regulation through miRISC will be discussed. A future plan will be suggested, explaining the immediate and long term research objectives to understand the coordinated interplay between RBPs and ncRNAs in normal and diseased conditions.