***Functional characterization of long noncoding RNA SPRY4-IT1***

Long non-coding RNAs (lncRNAs) are transcribed and expressed in a developmentally and disease-regulated manner and their function in the genome is a source of great interest. The *primary focus* of our study is to identify the molecular function of long noncoding RNA, *SPRY4-IT1* in humans *(Khaitan et al., Cancer Research 2011)*. *SPRY4-IT1* is highly upregulated in tumor samples from patients with a range of melanoma subtypes, including primary *in situ*, regional metastatic, distant metastatic, and nodal metastatic melanoma compared to melanocytic nevi and normal skin. Our interest in the role of this lncRNA to melanoma arises from our demonstration of that siRNA-mediated *SPRY4-IT1* knock-down causes defects in cell growth, motility and differentiation, and induces apoptosis of melanoma cells lines, suggesting a role for *SPRY4-IT1* in melanoma development. The current research in our group is designed to address several key questions on *SPRY4-IT1* biology such as: (a) How is *SPRY4-IT1* regulated? (b) What is its function in the cytoplasm if it is not translated? (c) Where specifically is *SPRY4-IT1* compartmentalized? (d) What is the molecular mechanism of *SPRY4-IT1* function? The major ***impact*** of our study is to demonstrate for the first time the involvement of lncRNA in development of melanoma, beyond the boundaries of protein-coding genes.