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SOX9: From biomarker to a therapeutic target in breast cancer

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Typically, there is a time gap of two to three weeks between a biopsy proven diagnosis of cancer and surgical intervention, at which time the physician has access to the same tumor tissue again. If a biomarker can differentially diagnose and predict the prognosis of the disease, the physician has the option of adding adjunct therapy to enhance the therapeutic efficacy of surgical intervention. Furthermore, if this biomarker can be targeted using a cocktail of drugs that induce differentiation of cancer cells (retinoids etc.) one may be able to monitor the therapeutic efficacy of this approach by analyzing the surgical specimen for markers of differentiation and compare the outcome with that of the initial biopsy specimen. In this talk I will summarizes our work on one such novel biomarker: SOX9, our efforts to induce differentiation of poorly differentiated breast cancer cells through nuclear translocation of this biomarker with an HDAC inhibitor and modulation of its post translational function. I will conclude the talk with studies that show how monitoring of this biomarker is inexpensive, yet can yield much insight about the biology of the disease and how this information can be useful in choosing the right therapeutic approach.

Biography

Dr. Chakravarty completed her Ph.D from Tata Memorial Hospital, University of Mumbai, India and postdoctoral studies from Baylor College of Medicine, USA. She is looking for collaborators to test SOX9's biomarker potential. She is an Instructor in the School of Medicine, Tulane University. She has published in reputed cancer journals and is serving as an editorial board member of repute.