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ISG15: A potential target for the diagnosis and treatment of breast cancer

Breast cancer metastasis is a major clinical problem worldwide. The gap in knowledge of the “root causes” of progression of this disease is currently hindering the efforts in finding cure for the metastatic cancers. The aim is to provide new mechanistic insights to develop clinical treatments that can slow or prevent the progression of breast cancer. Using a breast cancer cell culture model, author and her group has identified an ubiquitin-like protein called ISG15 (Interferon-Stimulated Gene 15) as an important determinant of breast tumorigenesis. The results reveal that elevated levels of ISG15 contribute to breast tumorigenesis by inhibiting the canonical ubiquitin pathway, a master regulator of cell survival and death. ISG15 research has now begun to gain momentum because of the common understanding of its elevated expression in most human malignancies. The author will relate the current understanding of the ISG15 pathway and its emerging importance in the etiology of breast cancer development and progression. The views on the future potential for application of ISG15 as a biomarker for cancer diagnosis and treatment in clinic will also be discussed.

Biography

Shyamal Dilip Desai obtained her BS, MS, and PhD degrees in Biochemistry from the University of Mumbai, India. She received her Postdoctoral training at the UMDNJ-RWJMS in New Jersey. She currently holds faculty positions as Associate Professor of Biochemistry and Molecular Biology and Associate Professor at the Neuroscience Center of Excellency, at LSU Medical School. She currently serves on the editorial boards of the *Journals of Antivirals and Antiretrovirals*, *Experimental Cell Biology and Medicine*, and *Cancer Science and Therapy*. Her lab is currently engaged in exploring the role of ISG15 in the etiology of cancer and neurological disorder Ataxia Telangiectasia.

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