The molecular mechanism of the dual effect of pregnancy and lactation in risk and prevention of breast cancer

We have studied the genomic profile of nulliparous and parous women in the premenopausal and postmenopausal period and found genes that are activated only during the first five years after pregnancy and lactation that may contribute to the increased risk of breast cancer experienced by certain women after pregnancy. At the same time, we have confirmed that pregnancy and lactation induces a long lasting genomic signature that starts after pregnancy and explains preventive effect. The molecular mechanism related to prevention is based on chromatin remodeling process.

Biography

Jose Russo, MD is a Senior Member and Director of the Irma H Russo, MD Breast Cancer Research Laboratory, Director of the Breast Cancer and The Environment Research Center at the Fox Chase Cancer Center and Professor of Biochemistry in Temple Medical School and Adjunct Professor of Pathology and Cell Biology at Jefferson Medical School in Philadelphia, Pennsylvania. He has authored more than 400 publications; 13 books and is a member of several editorial boards of scientific journals. He has received numerous research awards from the National Cancer Institute- National Institute of Health (NIH) of the United States, the American Cancer Society and the Department of Defence for his original research on breast cancer. For the last 40 years, he has been an active member of the NIH peer review system and has served as a special reviewer for the American Cancer Society, National Science Foundation, Department of Defence and Veteran Affairs. He has trained 55 PhD and MD investigators in cancer research. His interest has a broad base, but with a focused goal: to understand the mechanisms that control the susceptibility of the breast epithelium to undergo neoplastic transformation; to identify markers of susceptibility, and; to develop strategies for breast cancer prevention.

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