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### ***Research Interests***

Primary prevention of breast cancer is the main goal of our laboratory. To accomplish this objective, we have focused on two main aspects of carcinogenesis: (1) the mechanisms that determine a higher susceptibility of the undifferentiated breast to be transformed by known or still-unknown carcinogens and (2) the induction of differentiation as a physiological mechanism for inhibiting cancer initiation and progression. We have capitalized on the known fact that complete differentiation of the breast induced by the hormones of pregnancy reduces the lifetime risk of breast cancer and on the identification of a “window” of high susceptibility of the breast to be transformed by a carcinogen. This “window” which extends from the initiation of ovarian function to the first pregnancy, can be modified by endogenous influences or by environmental exposures during childhood and puberty. Thus, primary prevention of breast cancer requires the development of novel strategies based on an understanding of the normal physiological mechanisms that control breast development in their interaction with specific environmental exposures that could disrupt critical endocrinological pathways, leading to an increase in susceptibility or refractoriness to cancer initiation.

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