ALPHA 2-HS GLYCOPROTEIN (FETUIN-A) ENHANCES MURINE MAMMARY TUMOR GROWTH

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Abstract: The long term goal is to delineate the role of Alpha 2-HS Glycoprotein (Fetuin-A), a systemic ectopic calcium inhibitor, in mammary tumor progression. To accomplish this goal, we have two specific aims: 1) to generate a phenotypic colony, that all the progeny express the oncoprotein polyoma middle T antigen (PyMT), known to produce spontaneous murine mammary tumors in approximately 95 days and one third of these progeny express fetuin-A; wild type (wt), heterozygous and null respectively; 2) to determine the affect of fetuin-A expression on tumor progression (hyperplasia, mammary intraepithelial neoplasia (Min), early and late adenocarcinoma. To understand the morphologic role of fetuin-A on premalignant and malignant lesions, we will be examining early and late mammary tumor growth. Furthermore, the rationale for using this model is that it closely mimics the four stages associated with tumor progression observed in human mammary adenocarcinoma; hyperplasia, mammary intraepithelial neoplasia, early carcinoma and late carcinoma. Histological analysis will characterize (physical measurement of tumor, necrotic tissue and host immune response) and immunological analysis will be characterized by (proliferation, apoptosis, matrix degrading enzyme, and hypoxia index) in early and late tumor growth. Assessing the expression levels of fetuin-A as we have described, will provide critical information as to whether fetuin-A plays a role in the multistep framework of tumor growth and more importantly if fetuin-A could be targeted as a predictor of tumor behavior.

Keywords: Alpha 2-HS Glycoprotein (Fetuin-A), oncoprotein polyoma middle T antigen, adenocarcinoma

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