Although abundant in tumor tissue, mast cells have no effect on immunological micro-milieu or growth of HPV-induced or transplanted tumors

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High numbers of mast cells populate the stroma of many types of neoplasms, including human papilloma virus-induced benign and malignant tumors in man and mouse. Equipped with numerous pattern recognition receptors and capable of executing important pro-inflammatory responses, mast cells are considered innate sentinels that significantly impact tumor biology. Mast cells were reported toăpromote human papilloma virus (HPV)-induced epithelial hyperproliferation and neo-angiogenesis in an HPV-driven mouse model of skin cancer. Weăanalyzed HPV-induced epithelial hyperplasia and squamous cell carcinoma formation, as well asăgrowth of tumors inoculated into the dermis, inămice lacking skin mast cells. Unexpectedly, the absence of mast cells had no effect on HPV-induced epithelial growth or angiogenesis, on growth kinetics of inoculated tumors, or on the immunological tumor micro-milieu. Thus, the conspicuous recruitment of mast cells into tumor tissues cannot necessarily be equated with important mast cell functions in tumor growth.
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