

# A KEY TO THE BACKDOOR INTO THE CASTLE: THE CLINICAL RAMIFICATIONS OF IMMUNE-EDITING DRIVEN BY ANTIGENIC COMPETITION

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Over the last decade the field of cancer biology has gained considerable data on genomic heterogeneity. This situation creates challenges and possibly opportunities for cancer treatment. The evolution of the tumor at all stages also requires the growing malignancy to confront and avoid the immune system. What we describe here is the interaction of two immune phenomena that work together to change the characteristics of the tumor, i.e., antigenic competition and immune editing. These two systems are mutually functional and their interaction is capable of altering the characteristics of the tumor for protection and survival in an immune competent host as well as restricting the diversity of the tumor clones. Therefore, the final outcome of these interactions can also become the key to the backdoor into the castle. Through an additional immune manipulation, autologous tumor cell immunization, we can achieve prevention of disease recurrence after surgical resection and by analyzing induced human monoclonal antibodies to the neoantigens, gain in site into the restriction of diversity of the mutant clones. These findings may also open the door for a pathway to immune prevention of cancer.

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