OFFICIAL ABSTRACT and CERTIFICATION

# The Effect of GNA11/GNAq Inhibitors in the Treatment of Uveal Melanoma

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In the cancer keatment field, a focus on targeting proliferative mechanisms in tumors has led to a lack of research in dormancy, cancer cell viability despite long disease free periods. This is the most relevant to cancers like uveal melanoma (UM), where 50% of patients ultimately develop metastatic disease (Carvajal et al, 2017). To understand dormancy in UM, NR2F1 was at first determined to act as a tumor suppressor. Discovering this genes relation to cancer growth would allow the effect of a treatment be understood by measuring the changes in NR2F1's expression level. Then, the main mutation that drives metastatic uveal melanoma, GNA11/GNAQ, was inhibited using YM-254890. The effect of this inhibition was seen by the direct conelation of an increase in NR2F1 levels in relation to the increase in the treatmentYM-254890. ln tumors with more than 8 cells, the more drastic increase in NR2FI and therefore the onset of a greater dormancy phenotype is apparent. lnducing dormancy could be the next topic of interest in cancer treatment to prevent the onset of recunences, While this inhibition was successful in cell lines, focusing on the effectiveness of using GNA11/GNAQ inhibitions in inducing dormancy in uveal melanoma in an animal model is essential in the future.

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