

Selective Bacteriophage Screening Targeting GαqQ209L Protein

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Uveal melanoma is the most common intraocular cancer in adults with 2,500 patients diagnosed every year in the United States. The cancer is highly chemoresistant and is able to metastasize to other parts of the body, usually the liver where it proves almost universally fatal. It is often difficult to detect the growth of the tumor without a confirmatory biopsy. The goal of this project is to find a peptide sequence specifically binding to GαqQ209L which is an oncogenic mutation causing uveal melanoma in majority of all oncogenic cases. The method of bacteriophage display was used to find a peptide ligand that will bind specifically to the Gαq Q209L; subtractive panning was used against Gαq Wild Type and glutathion. The binders were amplified and then tested using a phage ELISA. This experiment is still in progress and there are no conclusions to be made yet. In the future it is hoped to successfully find a peptide sequence that is specific to cells.

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