

# **Molecular Biology ANALYSIS OF CCR10 TRANSGENE EXPRESSION IN A MELANOMA MODEL CELL CULTURE SYSTEM**

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## **Abstract**

Melanoma is a type of skin cancer that occurs in the pigment-producing skin cells called melanocytes. These cells become abnormal, grow uncontrollably, and aggressively invade the body. In 2002, approximately 53,600 people in the United States were diagnosed with melanoma. Previous studies of human melanoma have revealed elevated levels of a cell surface receptor, Chemokine Receptor 10 (CCR10). Forced expression of CCR10 in melanoma cells in a mouse model system has been shown to promote metastasis to the lymph nodes and inhibit apoptosis (apoptosis is a protective mechanism to prevent uncontrolled cell division). Based on DNA sequence homology, CCR10 is thought to be a G-protein coupled receptor, which is a class of receptors known to activate a myriad of cell signaling pathways. Very little is known about the contribution of CCR10 signaling in melanoma development. To better understand the role of CCR10 in melanoma, we are currently in the process of generating a tissue culture melanoma model system over-expressing CCR10, which will ultimately aid in the identification of CCR10 signaling targets. I am currently culturing these transgenic melanoma cells and analyzing the expression of the CCR10 transgenic mRNA. Understanding differences between signaling pathways of normal melanocytes and melanoma cells will enable scientists to design more effective therapeutic drugs to specifically target and destroy melanoma.

## **Category**

Session: *Cell Biology*