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(54) **METHODS FOR PREDICTING SURVIVAL IN METASTATIC MELANOMA PATIENTS**

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(58) **Field of Classification Search**
USPC 435/7.23, 6.14
See application file for complete search history.

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(57) **ABSTRACT**

Cellular and genetic signatures and methods of using same for subcategorizing stage III melanoma tumors are described herein. The signatures and methods are particularly useful with regard to establishing more distinct criteria on which basis to differentiate stage IIIB and IIIC melanoma patients. Assessment of the cellular and genetic signatures of a melanoma sample using methods described herein yields information on which basis differential survival duration and sensitivity to various cancer therapies can be predicted for a Stage IIIB or Stage IIIC melanoma patients. As described herein, gene expression profiling, determination of mitotic index (MI), and quantification of tumor infiltrating leukocytes (TILs) and CD3+ cells in metastatic lesions may be utilized to predict or assess drug response, drug sensitivity, and clinical outcome in metastatic melanoma patients.

23 Claims, 46 Drawing Sheets