

MRA Strategic Research Plan 2011-2015

It has been nearly four years after the initial [Call to Action](#) meeting that launched MRA. In this time, incredible progress has been made, and the MRA has addressed each of the seventeen scientific and clinical questions included in that Call to Action agenda. This revised and updated Strategic Research Plan will help guide the development of the MRA scientific portfolio over the next four years. The plan was developed based on feedback from members of the [Grant Review Committee](#) and [Scientific Advisory Panel](#) with input from the [MRA leadership team](#).

Prevention

1. Further elucidate the genetic basis of risk and apply this information for identification and management of high risk groups
2. Develop new agents for melanoma prevention including topical or oral compounds for high-risk groups

Diagnosis and Staging

3. Develop a more accurate, molecularly-based staging system for melanoma
4. Design new imaging agents for detection and staging of metastatic melanoma, including new PET agents
5. Support a centralized, large-scale effort to extract and map molecular data from melanoma cell lines and tumor samples to clinical outcomes, in order to identify new prognostic and therapeutic targets and to optimize current therapies
6. Identify prognostic biomarkers for patients with Stage I – IIIA melanoma to guide clinical management
7. Develop serologic biomarkers to detect early stage melanoma

Treatment

8. Develop combinatorial treatment strategies for patients with stage III-IV melanoma including combinations of immunologic and molecularly targeted agents
9. Identify and characterize new biomarkers of treatment response and non-response to therapies
10. Elucidate the prognostic and therapeutic value of tumor microenvironmental factors, including using a “systems biology” approach
11. Promote research on immunotherapies including vaccines and immune modulating antibodies, for single agent use and in combination
12. Create new adjuvant therapies
13. Explore mechanisms of resistance to immunotherapies or molecularly targeted therapies and methods to overcome resistance
14. Identify new molecular targets and therapeutics for melanomas not expressing BRAF mutations or BRAF mutant melanomas not responsive to BRAF inhibitors
15. Explore epigenetic targets including methylation and microRNAs for the development of new therapies
16. Identify and target factors driving the process of melanoma invasion and metastasis