



Technology Transfer Opportunity

Methylation Biomarkers for Melanoma

OPPORTUNITY:

New methylation biomarkers useful for diagnosis of melanoma and its progression.

Description of Technology:

A panel of novel biomarkers for the diagnosis of melanoma has been identified. The markers can be used to determine tumor progression.

Value Proposition:

Whilst the incidence of cutaneous melanoma has been rising in Western countries for decades the prognosis of this disease and its progression has been very limited. Moreover, the lack of effective treatment for patients with advanced melanoma contributes to the extremely low survival rate (10% of patients survive within 5 years). Early and accurate diagnosis of melanoma is vital to improve these poor statistics.

Expression levels of melanoma specific biomarkers are useful tools for diagnosis of the disease. A panel of biomarkers has been identified to this effect. The markers are not only suitable for melanoma diagnosis but can also determine if a potential melanoma is in early radial growth phase (RGP) or a subsequent vertical growth phase (VGP). The biomarkers can therefore be used to determine the aggressiveness of a melanoma and to decide on a suitable treatment.

The biomarker genes have been shown to be regulated by DNA methylation and CpG islands where significant methylation occurs have been identified. Determination of the methylation status of the corresponding promoter regions provides an additional diagnostic method which can be used to monitor melanoma progression. The panel of these

methylation sensitive markers may be assessed in microarray format for prognosis and/or diagnosis of melanoma.

The described markers are useful for several applications: -

- Diagnosis and monitoring of progression of a melanoma based on marker expression level to ensure it does not progress to a potentially metastatic lesion
- Prognosis and diagnosis of melanoma based on methylation status of marker genes
- Identification of potential therapeutic targets

Market:

Diagnostic and Biomarker industry, Biotech industry, Pharmaceutical industry

Inventors:

Prof William Gallagher, UCD School of Biomolecular & Biomedical Science.

Status:

Selected markers have been validated using clinical samples and functional data for these candidates are available. A UK priority patent application was filed on 2nd March 2005 (publication no WO2006/092610) and has since been progressed to US and European patent applications.

Opportunity Sought:

Available for licensing

Licensing Contact:

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