Efficient Protocol for Melanin Purification: Impact on Melanoma Molecular Diagnosis of Highly Pigmented Lesions

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Background:
Melanoma is a neoplasm resulting from the exacerbated proliferation of melanocytes, which often makes these lesions pigmented. Mutation analysis from DNA biopsy-derived assists diagnosis of most solid tumors including the analysis of BRAF V600E for treatment with BRAF and MEK inhibitors. However, melanin can be purify with the genomic DNA (gDNA) and inhibit polymerase chain reaction (PCR). A few studies have demonstrated methods for the purification of melanin and no one demonstrate high purification efficiency.

Aim:
The aim of the present study is to compare different methods of gDNA purification of melanin, with several DNA fragment sizes for both fresh and paraffin samples to establish an efficient protocol.

Methods:

Conclusions:
The best protocol was the one that combined spin plus OneStep™ PCR Inhibitor Removal Kit. This protocol is feasible and should be used as a routine for research and molecular diagnostic to eliminate the melanin present in highly pigmented lesions of patients with melanoma.

Now we are looking for DNA methylation pattern in patients with and without UV signature.