

A homologue of the *Drosophila* headcase protein is a novel tumor marker for early-stage colorectal cancer

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摘要

Abstract

The altered expression of certain genes is frequently detected as a hallmark of malignant tumors. These differentially expressed genes have the potential to become molecular markers. We purified the fecal mRNA from patients with colorectal cancer to identify novel candidates by using oligonucleotide microarray hybridization. We identified 21 upregulated and 22 downregulated candidates with significantly altered expression in patient fecal samples that have not been previously characterized. A gene encoding a homologue of the *Drosophila* headcase protein (HECA) was further examined due to its high ranking and possible importance in some human cancers. A tendency towards increased expression of HECA was dependent upon the clinicopathological stage. In this report, healthy individuals expressed less HECA, either in their blood samples or feces. Moreover, we detected upregulated HECA in blood and fecal samples of patients with colorectal cancer, and its expression level was shown to be significantly correlated with disease status. Our data show that HECA may be an early-stage classifier of colorectal cancer that can discriminate between late- and early-stage disease. In conclusion, this study is the first to analyze differentially expressed genes in the feces of colorectal cancer patients using oligonucleotide microarrays. The data suggest that HECA expression levels in feces may be an effective classifier for early-stage colorectal cancer.