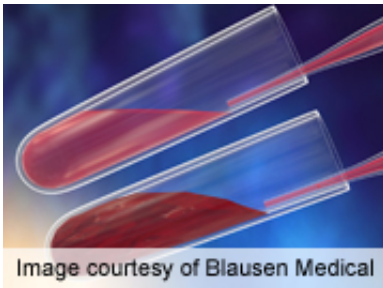


# Serum miR-21 putative biomarker for colorectal cancer

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The oncogenic microRNA *miR-21* is a potential biomarker for detection and prognosis of colorectal cancer, according to a study published in the June 19 issue of the *Journal of the National Cancer Institute*.

(HealthDay)—The oncogenic microRNA (miRNA) *miR-21* is a potential biomarker for detection and prognosis of colorectal cancer (CRC), according to a study published in the June 19 issue of the *Journal of the National Cancer Institute*.

Yuji Toiyama, from the Baylor University Medical Center in Dallas, and colleagues screened for expression of *miR-21* and *miR-31* in two CRC cell lines and in serum from 12 patients with CRC and 12 controls. Expression of candidate miRNAs was validated in serum samples from an independent cohort of 186 patients with CRC, 60 postoperative patients, 43 patients with advanced adenoma, and 53 controls. To determine whether serum miRNAs reflect expression in CRC, *miR-21*

expression was analyzed in 166 matched primary CRC tissues.

The researchers found that *miR-21* was secreted from CRC cell lines and upregulated in serum from CRC patients. In patients with adenomas and CRCs from the validation cohort, *miR-21* expression was significantly elevated in preoperative serum, and expression decreased in postoperative serum from patients who underwent curative surgery. Serum *miR-21* levels differentiated patients with adenoma and CRC from control patients (area under the curve, 0.813 and 0.919, respectively). There was a significant correlation between high serum and tissue *miR-21* expression with [tumor size](#), distant metastases, and poor survival. Serum *miR-21* was a significant [prognostic marker](#) for CRC, with a hazard ratio of 4.12.

"Our results provide compelling evidence for the potential usefulness of serum *miR-21* as a noninvasive screening and prognostic tool in patients with [colorectal neoplasia](#), a concept that can be incorporated into routine clinical practice in the not-so-distant future pending validation in large-scale prospective trials," the authors write.

**More information:** [Abstract](#)  
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