

Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Specific Detection of Vascular Endothelial Growth Factor Using Microcantilever Resonators.¹ JASON FRANCIS, Dept. of Physics, West Virginia University, STEPHANIE ARCHER, LISA HOLLAND, Dept. of Chemistry, West Virginia University, DAVID LEDERMAN, Dept. of Physics, West Virginia University — We demonstrate the specific detection of vascular endothelial growth factor, a protein indicated in tumor angiogenesis, using resonant frequency shifts in microcantilevers due to mass loading, avoiding the need to use tagged antibodies and multiple reagents as is needed with enzyme linked immunosorbent assays (ELISA). Cantilever surfaces were functionalized using F(ab') fragments linked to gold surfaces via their native thiol groups, eliminating the need for complex linking processes. The cantilever surfaces were then passivated with bovine serum albumin to minimize shifts due to nonspecific binding. This technique allows the detection of pg/mL-level concentrations of analyte.

¹This work is supported by National Science Foundation (grant EPS-0314742) and the WVNano Initiative at West Virginia University.

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Date submitted: 21 Nov 2008

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