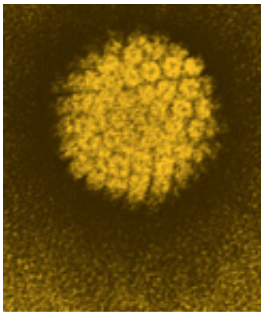


# Probable/possible carcinogenic HPV types are biologically active

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Electron micrograph of HPV. Photo courtesy: U.S. National Institutes of Health.

(HealthDay)—Molecular evidence indicates that eight probable/possible high-risk human papillomavirus (pHR-HPV) types are biologically active, according to a study published in the December issue of *The Journal of Pathology*.

Gordana Halec, from the German Cancer Research Center in Heidelberg, and colleagues analyzed the biological activity of pHR-HPV in direct comparison to HR-HPV types. Fifty-five formalin-fixed paraffin-embedded cervical cancer (CxCa) tissues harboring single pHR-HPV infections and 266 tissues harboring single HR-HPV were selected from a worldwide, retrospective, cross-sectional study. Two genotyping methods were used to verify single HPV infection.

The researchers found that E6\* I mRNA expression was 100 percent; high p16<sup>INK4a</sup> 98 percent; low pRb 96 percent; low CyD1 93 percent; and low p53 83 percent in 55 CxCa tissues with pHR-HPV. There was no significant difference in the individual frequencies of these five markers compared to HPV16 tissues as a reference, either for any of the eight pHR-HPV and the other 11 HR types individually or for the groups of pHR and HR types without HPV16.

"We conclude that the eight pHR-HPV types, when present as a single infection in CxCa, are biologically active and affect the same cellular pathways as any of the fully recognized carcinogenic HR-HPV types," the authors write. "Therefore we have provided [molecular evidence](#) of carcinogenicity for types currently classified as probably/possibly carcinogenic."

Two authors disclosed financial ties to Roche and Qiagen in the field of development of HPV diagnostics; the work was partially supported by pharmaceutical companies.

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