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# ANECDOTAL OFF-LABEL TRIALS OF CHLOROQUINE FORMULATIONS AS TOPICAL ANTI-HUMAN PAPILLOMAVIRUS TREATMENTS FOR HIGH- AND LOW-RISK HPV-DERIVED DISEASE

Off-label, non-blinded clinical studies were performed with formulations of the API chloroquine, a well-known antimalarial for which we discovered strong anti-HPV activity. The anti-HPV activity was confirmed in cell culture studies in three independent laboratories, including at the National Institutes of Health. We present before and after data from patients with a range of high- and low-risk HPV infections. Successful treatment includes patients with Bowen's disease, oral papillomas, CIN grades I and II, and genital warts. In certain cases, DNA tests were run by independent labs and these showed no HPV after treatment with chloroquine formulations. Chloroquine and related molecules have been found to reactivate p53 expression in tumors, leading to tumor shrinkage by autophagy and related processes, and this has led the antimalarial class to be studied as anticancer drugs in eight or more clinical trials, some in Phase III. We suspect that importance of eliminating p53 as part of the HPV lifecycle, as carried out by the viral E6 oncoprotein by ubiquitination of p53, and the documented recovery of p53 expression by chloroquine, play a role in the observed anecdotal results. Patient data will be shown after the ten day to two-week topical treatment course via a cream, douche, or mouthwash.

## Biography

James K Bashkin has completed his DPhil from Oxford University and Postdoctoral studies from Harvard University's Department of Chemistry. He is Professor of Chemistry and Biochemistry at the University of Missouri-St. Louis and Co-Founder and Director of Chemistry at NanoVir LLC, an antiviral company. He also worked at Monsanto, Pharmacia, and Pfizer, has published more than 73 papers in reputed journals, and has served as an Editorial Board Member and/or Associate Editor of numerous journals, most notably as an Editorial Advisory Board member of *Chemical Reviews* from 1991-2014.

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