

Supplementary Table S1: Primers, probes, plasmids and gBlocks used in the HPV assay

Assay	Sequence (5'-3')	Amplicon	T _m (°C) ^a
HPV16 (E7)	Forward: TGACTCTACGCTTCGGTTG Reverse: GCCCATTAACAGGTCTTCC Probe: CGTACAAAGCACACACGTAGACATTCGTAC (FAM-ZEN probe)	73 bp	61.7 60.4 68.1
HPV18	Forward: TGAAGCCAGAATTGAGCTAG Reverse: AGGACAGGGTGTTTCAGAA Probe: CA+GA+C+GAC+CTTCG (LNA HEX probe)	83 bp	60.0 60.4 67.2
HPV31	Forward: AGCACACAAGTAGATATTCGC Reverse: TAGTAGAACAGTTGGGGCA Probe: TAA+C+AG+CT+C+TTG+C (LNA HEX probe)	79 bp	60.6 60.6 67.5
HPV33	Forward: TAACACCACAGTTCGTTTATGT Reverse: ACAATATTCAGTGTGCCATA Probe: TG +AC+C +TA+CG +A+ACC (LNA HEX probe)	87 bp	60.7 60.1 67.3
HPV35	Forward: TGAGGCGACACTACGTC Reverse: GTGCCATTAATAAATCTTCCAA Probe: AG+AG+C+ACA+C+ACAT (LNA HEX probe)	75 bp	60.7 60.1 68.0
<i>ESR1</i> WT	Forward: ATCTGTACAGCATGAAGTGCAAGA Reverse: CTAGTGGGCGCATGTAGGC Probe: T+C+T +AT+G +A+CC TG (LNA HEX or LNA TET probe)	91 bp	64.7 64.7 61.04
Control	Details		
HPV16	HPV16 genome plasmid of 2686 bp		
HPV16 E7	gBlock:5'AATATTGTAACCTTTTGTGTTGCAAGTGTGACTCTACGCTTCGGTTGTG CGTACAAAGCACACACGTAGACATTCGTACTTTGGAAGACCTGTTAATGGG CACACTAGGAATTGTGTGCCCATCTG3' (This sequence was synthesized by IDT and cloned into TA vector to get 4083 bp plasmid)		
HPV16 L1	gBlock:5'AGGCACACTAGAAGATACTTATAGGTTTGTAAACATCCCAGGCAATT GCTTGTCAAAAACATACACCTCCAGCACCTAAAGAAGATCCCCTTAAAAAA TACACTTTTTGGGAAGTAAATTTAAAAG3' (This sequence was synthesized by IDT and cloned into TA vector to get 4083 bp plasmid)		
HPV18	HPV18 genome plasmid of 8314 bp		
HPV31	HPV31 genome plasmid of ~12 kb		
HPV33	gBlock:5'TACATTGTAACCTGTTGTCACACTTGTAAACACCACAGTTCGTTTATG TGTC AACAGTACAGCAAGTGACCTACGAACCATAACAGCAACTACTTATGGG CACAGTGAATATTGTGTGCCCTACCTG3' (This sequence synthesized was by IDT and cloned into TA vector to get 4083 bp plasmid)		
HPV35	gBlock:5'ATATTGTAACGTCCTGTTGTAAATGTGAGGCGACACTACGTCTGTG TGTACAGAGCACACACATTGACATACGTAAATTGGAAGATTTATTAATGGG CACATTTGGAATAGTGTGCCCGGCTGT3' (This sequence was synthesized by IDT and cloned into TA vector to get 4083 bp plasmid)		

^aThe melting temperatures (T_m) were predicted using DNA Thermodynamics and Hybridization and

OligoAnalyzer tools at IDT's website.