

**Supplementary Table 1.** Non-inferiority criteria corresponding to the primary hypotheses related to immunogenicity.

Antigen	Parameter <sup>b</sup>	Expected rates/SDs	Non-inferiority Margin	Power
HPV type 6, 11, 16, 18, 31, 33, 45, 52, and 58 <sup>a</sup>	GMT	$\sigma = 1.2$	2-fold decrease	>99.9%
Diphtheria	>0.1 IU/mL	95%	10 percentage points	>99.9%
Tetanus	>0.1 IU/mL	92%	10 percentage points	>99.9%
Pertussis PT	GMT	$\sigma = 1.4$	1.5-fold decrease	99.1%
Pertussis FHA	GMT	$\sigma = 1.0$	1.5-fold decrease	>99.9%
Pertussis PRN	GMT	$\sigma = 1.3$	1.5-fold decrease	99.6%
Pertussis FIM	GMT	$\sigma = 1.6$	1.5-fold decrease	99.5
Poliovirus type 1	>1:8	98%	10 percentage points	>99.9%
Poliovirus type 2	>1:8	98%	10 percentage points	>99.9%
Poliovirus virus type 3	>1:8	98%	10 percentage points	>99.9%

<sup>a</sup>Each HPV type is tested separately

<sup>b</sup>Non-inferiority of anti-HPV GMTs was measured at 4 weeks post-dose 3 of 9vHPV vaccine and 4 weeks post-vaccination with Tdap-IPV vaccine.

Non-inferiority of diphtheria, tetanus and poliovirus titers was measured 4 weeks post-vaccination with Tdap-IPV vaccine.