



## ABSTRACT – COSM 2026

### **Title:** DNA Immunotherapy INO-3107 Long-Term Continued Clinical Effect is Supported by Improved Immune Response in HPV 6/11 Recurrent Respiratory Papillomatosis

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**Background:** Recurrent Respiratory Papillomatosis (RRP) is a chronic disease caused by HPV-6/11. INO-3107, a DNA immunotherapy designed to generate HPV-6/11-specific T-cells responses, was evaluated in a 52-week Phase I/II study (RRP-001, NCT04398433) and retrospective follow-up study (RRP-002).

**Methods:** RRP-001 enrolled 32 patients with confirmed HPV-6/11 RRP requiring  $\geq 2$  surgeries in the preceding year (Y-1). After surgical debulking, patients received INO-3107 on Day 0 (D0) and Weeks 3, 6, 9 via intramuscular injection followed by electroporation. Primary endpoints: safety/tolerability; secondary endpoints: surgical frequency and cellular immune responses. RRP-002 followed 28/32 patients enrolled in RRP-001 for  $\geq 52$  additional weeks, assessing surgical frequency and serious adverse events (SAEs).

**Results:** Median (95% CI) increases at end of Year 1 (Y1) above D0 for frequency of expanded clonal T-cells in blood and enrichment score (0-1 scale) of CD8+ T-cells, inclusive of cytotoxic and memory, in tissue are 0.260% (0.104-0.698) and 0.225 (0.102-0.502), respectively.

The clinical data is consistent with these observations. 89% of patients were responders ( $\geq 1$  surgery reduction) in Year 2 (Y2). Mean annual surgeries for responders decreased to 0.8 in Y2 from 4.2 in Y-1. No change in mean annual surgeries was seen for non-responders (Y-1: 2.0, Y2: 2.0). Alternative treatments were used by 1 patient in Y1 and 5 in Y2. INO-3107 was well-tolerated with no treatment-related SAEs.

**Conclusion:** DNA immunotherapy INO-3107 for recurrent respiratory papillomatosis results in improvement of immune response parameters at Y1 post-treatment, supporting the further improvement in clinical response based on surgery reduction seen in Y2.