International Alliance for Biological Standardization

Europe

Workshop on Assessing Consequences of Maternal Immunization on Foetal Outcomes
June 8-9, 2026
Zürich, Switzerland

Title: Pregnancy outcomes following maternal vaccination with recombinant pertussis vaccines: evidence from three observational studies in Thailand

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Background: Maternal immunisation against pertussis is an established strategy to protect young infants. While tetanus-diphtheria-acellular pertussis (Tdap) vaccines are widely used, data on recombinant pertussis vaccines administered during pregnancy remain limited.

Methods: Pregnancy outcomes following maternal vaccination with recombinant pertussis vaccines, either monovalent aP or combined TdaP, were evaluated across three observational studies conducted in Thailand. Adverse events, pregnancy complications, and birth outcomes were assessed.

Results: 3062 pregnant women were included into the analysis. The safety profile was consistent with that expected in the general pregnant population. Rates of preterm birth, low birth weight, and congenital anomalies were within background ranges. No vaccine-related safety signals were identified. Maternal vaccination elicited robust immune responses at one-month post vaccination and at delivery, supporting transplacental antibody transfer to infants.

Conclusion: These findings provide evidence supporting the safety and immunogenicity of maternal immunisation with recombinant pertussis vaccines. The results contribute to the evidence base informing greater maternal vaccination strategies for the prevention of pertussis in early infancy.